Final

Site 31, Former South Storage Yard
Record of Decision/Remedial Action Plan

Naval Station Treasure Island
Treasure Island, San Francisco, California

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Prepared for:
Base Realignment and Closure
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ACRONYMS AND ABBREVIATIONS

§	Section
ARAR	applicable or relevant and appropriate requirement
B(a)P	benzo(a)pyrene
Basin Plan	Bay Basin water quality control plan
Bay	San Francisco Bay
BCT	BRAC Cleanup Team
BERA	Baseline Ecological Risk Assessment
bgs	below ground surface
Cal/EPA	California Environmental Protection Agency
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
COC	chemical of concern
COPC	chemical of potential concern
COPEC	chemical of potential ecological concern
DoD	Department of Defense
DTSC	Department of Toxic Substances Control
EBS	environmental baseline survey
EC	engineering control
EPA	U.S. Environmental Protection Agency
EPC	exposure point concentration
EQ	equivalent
ERA	ecological risk assessment
ESD	explanation of significant difference
FFSRA	Federal Facility Site Remediation Agreement
FOSL	Finding of Suitability to Lease
FS	feasibility study
HEAST	Health Effects Assessment Summary Tables
HHRA	human health risk assessment
HI	hazard index
HSAA	Hazardous Substances Account Act
HSC	Health and Safety Code
IC	institutional control
IR	installation restoration
IRIS	Integrated Risk Information System
mg/kg	milligrams per kilogram
mg/L	milligrams per liter
NAVFAC SW	Naval Facilities Engineering Command Southwest
NAVSTA TI	Naval Station Treasure Island
Navy	Department of the Navy
NBAR	nonbinding allocation of responsibility

NCP	National Oil and Hazardous Substances Pollution Contingency Plan
ng/kg	nanograms per kilogram
O&M	operations and maintenance
PA/SI	preliminary assessment/site inspection
PAH	polycyclic aromatic hydrocarbon
PCB	polychlorinated biphenyl
PP	proposed plan
PRG	preliminary remediation goal
PRP	potentially responsible party
PPRTV	Provisional Peer-Reviewed Toxicity Values
Q_{soil}	average vapor flow rate
RAB	Restoration Advisory Board
RAO	remedial action objective
RAP	remedial action plan
RAWP	remedial action work plan
RCRA	Resource Conservation and Recovery Act
Reuse Plan	Draft Naval Station Treasure Island Reuse Plan
RfD	reference dose
RI	remedial investigation
RME	reasonable maximum exposure
ROD	record of decision
SARA	Superfund Amendments and Reauthorization Act
SLERA	screening-level ecological risk assessment
SVOC	semivolatile organic compound
SWRCB	State Water Resources Control Board
TCRA	time-critical removal action
TDS	total dissolved solids
TEQ	toxic equivalent
TI	Treasure Island
TIDA	Treasure Island Development Authority
TPH	total petroleum hydrocarbons
VOC	volatile organic compound
Water Board	Regional Water Quality Control Board, San Francisco Bay Region
YBI	Yerba Buena Island

1.0 DECLARATION

This Record of Decision (ROD)/Remedial Action Plan (RAP) documents the selected remedial actions for Installation Restoration (IR) Site 31, Former South Storage Yard, Naval Station Treasure Island (NAVSTA TI), San Francisco, California. The ROD/RAP serves as a legal document that certifies the remedy-selection process for the site was carried out in accordance with the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), as amended by the Superfund Amendments and Reauthorization Act (SARA) and, to the extent practicable, the National Oil and Hazardous Substances Pollution Contingency Plan (NCP), the State of California Health and Safety Code (HSC), and the Hazardous Substances Account Act (HSAA), Section (§) 25356.1. It also provides a substantive summary of the technical rationale and background information contained in the Administrative Record. As a technical document, the ROD/RAP provides information necessary for determining the engineering components of the remedy. It also outlines the remedial action objectives (RAOs) and cleanup levels for the selected remedy, and is a key tool for communication with the public.

Section 1 provides an overview of the ROD/RAP and includes specific information such as site name and location, purpose of the document, summary of site conditions, selected alternative, and statutory determinations.

1.1 SITE NAME AND LOCATION

In 1993, NAVSTA TI was designated for closure under the Base Closure and Realignment Act of 1990. In September 2003, in an effort to facilitate environmental cleanup, the Department of the Navy (Navy), in consultation with the California Environmental Protection Agency (Cal/EPA) Department of Toxic Substances Control (DTSC), the San Francisco Bay Regional Water Quality Control Board (Water Board), and the U.S. Environmental Protection Agency (EPA) Region IX, designated the Former South Storage Yard as IR Site 31. This ROD/RAP addresses Site 31.

In 1995, the Navy conducted a basewide environmental baseline survey (EBS) to divide NAVSTA TI into EBS parcels based on land use, physical boundaries (such as roads), or possible future use, and to update the environmental condition of property for each identified EBS parcel (ERM-West 1995). Parcel boundaries are used in discussions about suitability for lease and transfer. Site 31 encompasses parts of EBS Parcels T089, T092, T094, and T095, which are divided by 11th Street and Avenue E. Before the area was developed as an elementary school in the late 1960s, the parcels were used for several purposes, beginning with exhibits for the 1939-40 Golden Gate International Exposition. Aerial photographs show that the exhibit structures were removed after the exposition ended in 1940 and the Navy took over the island. During the early 1970s, the southern portion of Parcel T095 was used as a storage yard (known as the South Storage Yard). The nature of operations at the South Storage Yard is unknown. In the late 1970s, the South Storage Yard was paved over and developed as an elementary schoolyard. The elementary school is currently leased to the Treasure Island Development Authority (TIDA) under a Finding of Suitability to Lease (FOSL) and is being used by the Boys and Girls Club of San Francisco, the Glide Foundation, the San Francisco Motorcycle Solo Unit, and the San Francisco Sheriff's Department Five Keys Charter School.

In April 2002, a 1989 as-built drawing was discovered indicating that the Navy Public Works Center installed an 8-inch water line down the middle of 11th Street (SulTech 2006). A note on the as-built drawings for the water line project identified an "old trash dump" within the western portion of the excavation along 11th Street between Avenues D and E (Shaw 2003). Subsequent soil investigations were conducted in 2002 and 2003 to evaluate the impact of previous activities at the South Storage Yard and to characterize the nature and extent of the buried debris. Based on the results of these soil investigations, the Navy established Site 31, Former South Storage Yard, in September 2003 (Navy 2003). Site 31 was established to include the portions of the schoolyard, portions of 11th Street and Avenue E, associated sidewalks, and a portion of a parking lot near the intersection of 11th Street and Avenue E. Site 31 does not include the elementary school buildings or any other building structures.

1.2 STATEMENT OF BASIS AND PURPOSE

This decision document presents the basis for the selected remedy for Site 31, Former South Storage Yard, at NAVSTA TI. The remedy was selected in accordance with CERCLA, as amended by SARA and the NCP. This decision document satisfies all requirements of a ROD under CERCLA and is based on the Administrative Record for this site. In addition, the decision was made in accordance with the HSAA codified in HSC Chapter 6.8. It is the Navy's intent that this document meets the requirements of HSC § 25356.1, which is a State requirement for RAPs at remedial sites; however for the purpose of this ROD/RAP, § 25356.1 is not considered an applicable or relevant and appropriate requirement (ARAR). The "Statement of Reasons" and the "Nonbinding Allocation of Responsibility" required by the HSAA are presented in Appendix A.

In 1992, the Navy entered into a Federal Facility Site Remediation Agreement (FFSRA) with the State of California that stipulates the type, scope, and schedule of environmental work to be conducted at NAVSTA TI. The FFSRA identifies the regulatory agencies responsible for oversight of all related work at NAVSTA TI. These agencies include Cal/EPA DTSC and the Water Board. The FFSRA is scheduled to be updated annually in the site management plan.

The Navy, with the concurrence of DTSC and the Water Board as indicated by their signatures, has selected removal of soil from Debris Areas A, B, C, D, and E and off-site disposal as the remedial alternative to address risk posed by contaminants in soil at Site 31. Although not a signatory agency, the EPA has reviewed all major documents and concurs with the selected alternative. This ROD/RAP is supported by the Administrative Record for this selected alternative, located at the information repository at Treasure Island (TI) Building 1, Room 161, 410 Palm Avenue, Treasure Island, San Francisco, California, and the San Francisco Public Library in the Government Publications Section, 100 Larkin Street, San Francisco, California. The Administrative Record index for Site 31 is presented in Appendix B.

This ROD/RAP describes how the selected remedy satisfies environmental regulations and how each remedial alternative was evaluated against the nine criteria for remedy selection. Information supporting the selected remedy is contained in the Administrative Record file for this site. The ROD/RAP also includes a responsiveness summary, which describes the public participation activities conducted and provides responses to comments received during the public comment period.

1.3 ASSESSMENT OF THE SITES

The response actions selected in this ROD/RAP are appropriate to protect the health of potential human and ecological receptors from releases of hazardous substances into the environment.

1.4 DESCRIPTION OF THE SELECTED REMEDY

The Navy, with the concurrence of the State of California, has selected removal of contaminated soil from Debris Areas A, B, C, D, and E and off-site disposal as the selected remedy for Site 31. The remedy addresses the principal threats by preventing exposure to contaminated soils at the site, and would allow unrestricted future use of Site 31.

Environmental data collected between 2002 and 2004 were used to determine the extent of contamination in soil and groundwater and to evaluate potential risks to the environment. During these investigations, soil and groundwater were sampled for chemical analysis and the results were evaluated to determine the risk they might pose to human and ecological receptors.

Estimated excess cancer risk for the elementary school child, elementary school staff, and construction worker was within the EPA risk management range. Estimated excess cancer risk for hypothetical child/adult resident and commercial/industrial worker were within the cancer risk management range using the Federal risk calculation method, but above the risk management range using the State method. Noncancer hazards were below EPA's noncancer hazard index (HI) threshold of 1 for all receptors except hypothetical residents and commercial/industrial workers, for both the State and Federal methods. Site contaminants detected in groundwater did not contribute significantly to cumulative potential cancer risks or noncancer HIs. Elevated soil concentrations of benzo(a)pyrene [B(a)P] and dioxins identified as risk drivers were mostly limited to hot spots (Debris Areas C and D).

The potential for human health impacts caused by lead is typically based on blood-lead concentrations. LeadSpread modeling was used to estimate blood-lead levels in an elementary school child and adult/child residents based on soil lead concentrations. The modeling results exceeded the targeted level of concern for the child resident. In addition to the modeling criteria, the lead concentrations were also compared with the EPA Region IX preliminary remediation goal (PRG) for soil in an industrial use scenario. The lead concentrations in surface soil data sets were well below the industrial PRG. However, when site-wide surface data sets were combined with site-wide subsurface soil data sets, lead exceeded the PRG. Lead contamination is limited to hot spots in Debris Areas A, B, and E.

The selected remedy would allow unrestricted use of the site under residential, commercial/industrial, or recreational scenarios. Detailed information on site risk is provided in the Remedial Investigation (RI) Report (SulTech 2006).

1.5 STATUTORY DETERMINATIONS

The selected remedy satisfies the statutory requirements of CERCLA because it promotes protection of human and ecological receptors at Site 31.

The selected remedy would remove any contaminated soil and the source for potential human health risk under all use scenarios. This remedy has good short-term and long-term effectiveness, but will not reduce the mobility, volume, or toxicity of the potentially hazardous constituents in soil. However, site-specific toxicity, mobility, and volume of contaminants will be reduced by removing and disposing of contaminated soil. The selected remedy is also cost-effective.

1.6 ROD AND RAP DATA CERTIFICATION CHECKLISTS

The following information required for a ROD in CERCLA is included in the decision summary section of this ROD/RAP:

CERCLA Checklist Item	Location
1. Chemicals of concern (COCs) and their respective concentrations	Section 2.5 – Site Characteristics and Sampling History
2. Baseline risk associated with the COC	Section 2.7 – Summary of Site Risks
3. Remedial action objectives and the basis for these objectives (in lieu of cleanup goals)	Section 2.8 – Remedial Action Objectives
4. Source material constituting principal threats	Section 2.11 - Principal Threat Wastes
5. Current and reasonably anticipated future land-use assumptions and current and potential future beneficial uses of groundwater	Section 2.6 – Current and Potential Future Land and Resource Uses
6. Potential land and groundwater use that will be available at the site as a result of the selected remedy	Section 2.12 – Selected Remedy
7. Estimated costs of the selected remedy	Section 2.12 – Selected Remedy
8. Key factors that led to selecting the remedy	Section 2.12 – Selected Remedy

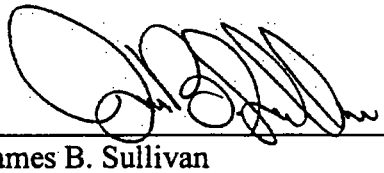
The information required in a RAP by HSAA § 25356.1(e) can be found in the sections of the ROD/RAP listed below. In addition, HSAA § 25356.1(d) requires that RAPs include a statement of reasons setting forth the basis for the removal and remedial actions selected. The statement of reasons is located in Appendix A of this ROD/RAP.

HSAA Requirement	Location
1. Basis for the remedial action selected	Section 2.7.3 - Basis for Taking Action
2. Evaluation of each alternative considered and rejected	Section 2.9 – Description of Alternatives
3. Explanation for rejection of alternative remedial actions considered but rejected	Section 2.9 – Description of Alternatives
4. Evaluation of the consistency of the selected remedial action with the requirements of the federal regulations and the factors specified in subdivision (d), if those factors are not otherwise adequately addressed through compliance with the federal regulations	Appendix A – Statement of Reasons
5. A nonbinding preliminary allocation of responsibility among all identifiable potentially responsible parties (PRPs)	Section 3.4 – Nonbinding Allocation of Responsibility Appendix A – Statement of Reasons

Additional information can be found in the Information Repository for Site 31 located at TI Building 1, Room 161, 410 Palm Avenue, Treasure Island, San Francisco, California, and the San Francisco Public Library in the Government Publications Section, 100 Larkin Street, San Francisco, California. The Administrative Record is maintained at Naval Facilities Engineering Command Southwest (NAVFAC SW), San Diego.

1.7 DECLARATION STATEMENT AND AUTHORIZING SIGNATURE

Based on the evaluation of analytical data, historical information, assessment of risk, and site inspections described in the Final RI Report (SulTech 2006), the Navy, with the concurrence of DTSC and the Water Board, has concluded that remedial action is required for Site 31, Former South Storage Yard, at NAVSTA TI. The remedial action selected for Site 31 is soil removal and off-site disposal. Hazardous substances present in Site 31 soils at concentrations above acceptable risk levels would be removed from the site, therefore, the 5-year review requirement of CERCLA § 121(c) is not applicable.



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2.0 DECISION SUMMARY

This decision summary provides an overview of the installation and its history, environmental conditions, potential risks from soils within Site 31 at NAVSTA TI, and the basis for the selected remedial action.

2.1 SITE NAME, LOCATION, AND DESCRIPTION

NAVSTA TI lies in San Francisco Bay (Bay), midway between San Francisco and Oakland, California. The Naval facility consists of two contiguous islands: TI, and Yerba Buena Island (YBI). Site 31, Former South Storage Yard, consists of approximately 2 acres located in the northwest portion of TI (Figures 1 and 2).

2.2 SITE HISTORY AND ENFORCEMENT ACTIVITIES

TI was built in 1936 and 1937 on the Yerba Buena Shoals, a sand spit extending from the northwest point of YBI. The island was originally used for the Golden Gate International Exposition in 1939. In 1941, in response to a Navy request, the City of San Francisco leased TI, YBI, and the surrounding offshore area to the Navy for the duration of World War II. After the war, the City of San Francisco agreed to trade the deed of NAVSTA TI to the Navy in exchange for government-owned land south of San Francisco. The Navy operated TI for various Naval activities, including a medical clinic, fuel farm, service station, fire training school, waterfront facilities, ammunition storage, troop and family housing, personnel support, a brig, and a Navy and Marine Corps museum.

The IR program was established by the Department of Defense (DoD) in 1975 to identify, assess, characterize, and clean up or control contamination caused by historical disposal activities and other operations at military installations. The Navy IR program was formally established in 1986. The IR program is carried out in accordance with all Federal, State and local laws. The primary Federal laws are CERCLA and SARA.

A preliminary assessment/site inspection (PA/SI) for NAVSTA TI was completed in April 1987 (Dames and Moore 1988). In 1993, NAVSTA TI was designated for closure under the Base Closure and Realignment Act of 1990. In 1994 and 1995, the Navy conducted a thorough EBS (ERM-West 1995). Naval operations were shut down in 1997, and reuse of the property is currently coordinated by the TIDA.

During the EBS, NAVSTA TI was divided into a number of parcels. Parcel T095 was used for several purposes, beginning with exhibits for the 1939-1940 Golden Gate International Exposition, before it was developed as an elementary school in the late 1960s. Historical aerial photographs show that the exhibit structures were removed after the exposition ended in 1940 and the Navy took over the island (SulTech 2006). During the late 1960s, the northern portion of Parcel T095 was developed as an elementary school. The open space was periodically used for storage and later as a fenced storage yard before its current use as an asphalt-paved schoolyard. According to a review of historical aerial photographs, the southern portion of the parcel (Site 31) was used as a storage yard (known as the "South Storage Yard") during the early 1970s, while the northern portion of Parcel T095 was an elementary school (SulTech 2006).

In the late 1970s, the South Storage Yard was paved over and developed to its current-day condition. The schoolyard is fenced to the east, south, and west. The elementary school and associated schoolyard were leased under a FOSL signed by the Navy on May 13, 1996 (PRC and Uribe 1997).

In April 2002, a 1989 as-built drawing was discovered indicating that the Navy Public Works Center installed an 8-inch water line down the middle of 11th Street (SulTech 2006). A note on the as-built drawing for the water line project identified an "old trash dump" in the western portion of the excavation for the water line along 11th Street, between Avenues D and E (Shaw 2003). Subsequently, a multi-phase investigation and removal action was conducted, beginning in May 2002, to determine the nature and extent of the buried debris (Shaw 2003, 2004).

Site 31 was established in September 2003 (Navy 2003), and the site boundaries were revised in April 2005 to include portions of 11th Street and Avenue E, associated sidewalks, and a portion of a parking lot near the intersection of 11th Street and Avenue E (Navy 2005). Site 31 does not include the elementary school buildings or any other building structures.

Based on soil and groundwater data collected during a trench investigation in 2002 and time-critical removal action (TCRA) in 2002/2003 and 2004 groundwater investigation, the Navy finalized the RI report for Site 31 in July 2006 (SulTech 2006) and the feasibility study (FS) in February 2007 (SulTech 2007b).

There are no enforcement activities relating to Site 31. Environmental investigations associated with Site 31 are implemented under the installation-wide environmental program.

2.3 COMMUNITY PARTICIPATION

The community relations plan for NAVSTA TI was updated in May 2008 (Tetra Tech 2008). The Navy maintains an active community participation program through the TI Restoration Advisory Board (RAB). The RAB is made up of Federal, State, and local government representatives and citizens. Through regular meetings, the Navy informs the RAB of the progress of investigative activities and solicits input on planned investigations and actions. In addition, the Navy issues fact sheets and newsletters to keep the general public informed of IR activities at NAVSTA TI and follows CERCLA community relations requirements.

The FS for Site 31 was completed in February 2007 (SulTech 2007a). The Proposed Plan (PP)/ Draft RAP for Site 31, Former South Storage Yard, was released to the public on September 23, 2008 (BAI 2008). The PP/Draft RAP was made available for a 30-day public review through both the Administrative Record located at NAVFAC SW, San Diego, California and the Information Repositories located at 410 Palm Avenue, Building 1, Room 161, Treasure Island, San Francisco, California, and the San Francisco Public Library in the Government Publications Section, 100 Larkin Street, San Francisco, California.

The notice of availability for the PP/Draft RAP was published in the *San Francisco Chronicle* on September 23, 2008. A public comment period was held through October 23, 2008. A public meeting was held on October 7, 2008, at the Casa de la Vista, Building 271, Treasure Island, San Francisco. At this meeting, representatives from the Navy, DTSC, and Water Board were

available to answer questions about Site 31 and describe the basis for the proposed action. The Navy's response to comments received during the public meeting and the public comment period is included in the Responsiveness Summary (Section 3.0). The public notice, roster of public meeting attendees, and public meeting transcript are included in Appendix C.

These community participation activities fulfill the requirements of §§ 113(k)(2)(B)(i-v) and 117(a)(2) of CERCLA, § 300.430(f)(3) of the NCP, and the HSAA (HSC § 25356.1).

2.4 SCOPE AND ROLE OF RESPONSE ACTION

This ROD/RAP addresses soil at Site 31. The site has not been divided into operable units or otherwise subdivided. The selected remedial action, soil removal and off-site disposal, will not affect remediation of nearby IR sites or overall remedial efforts at NAVSTA TI.

2.5 SITE CHARACTERISTICS AND SAMPLING HISTORY

The following sections provide a summary of the site characteristics and sampling history for Site 31.

2.5.1 Site Characteristics

Site 31 is 87,950 square feet, or approximately 2 acres in size, and includes a portion of the asphalt-paved schoolyard of the closed TI Elementary School. The school had a capacity of up to 1,000 students in kindergarten through 8th grade. The schoolyard is fenced to the east, south, and west (Figure 2). In addition to the schoolyard, Site 31 contains some landscaped areas outside the schoolyard, portions of 11th Street and Avenue E, associated sidewalks, and a portion of the paved parking lot near the intersection of 11th Street and Avenue E.

The elementary school is currently leased to the TIDA under a FOSL and is being used by the Boys and Girls Club of San Francisco, the Glide Foundation, the San Francisco Motorcycle Solo Unit, and the San Francisco Sheriff's Department Five Keys Charter School.

2.5.2 Ecological Setting

Generally, the terrestrial habitat of TI is of poor quality for wildlife species because the island is predominantly covered by urban development. To increase the understanding of the habitat and conditions found at IR sites on both TI and YBI, a group of Navy, Federal and State regulatory agencies, and local representatives drove and walked through the IR sites on both TI and YBI. During the site tour conducted on June 3, 1994, the group characterized the habitat on TI as poor quality, with large areas of pavement, gravel, or buildings restricting use of the sites by ecological receptors of concern (EPA 1994; Navy 1994). Additionally, the vegetated parts of TI consist of lawns and landscaped areas. Lawns generally provide poor habitat and the landscaped areas are planted with predominantly non-native species. Disturbance from vehicular traffic and widespread human presence also reduces the quality of the habitat for wildlife species at TI. With higher quality habitat nearby at YBI, the group concluded receptor species' use of TI was infrequent and risk to terrestrial receptors was minimal (Tetra Tech 1997; SulTech 2007b).

Site 31 characteristics are similar to other sites on TI (EPA 1994). Approximately 90 percent of the site is paved, covered with the asphalt schoolyard, streets, and sidewalks. The remaining 10 percent of the site consists of narrow strips of landscaped areas between the schoolyard and the streets (see Figure 2). The future reuse of Site 31 is to remain an asphalt-paved schoolyard. The southeast quadrant of the site is slated for recreational development (CCSF 1996). Neither of these reuse scenarios would enhance or create sufficient quality habitat to sustain populations of wildlife.

2.5.3 Investigation History

This section describes the investigations performed at NAVSTA TI relevant to Site 31.

Former South Storage Yard Investigation

Based on a 2002 review of historical aerial photographs and historical activity, the Navy and the regulatory agencies identified a storage yard in the southern portion of EBS Parcel T095 (SulTech 2006). This area was identified as the Former South Storage Yard. Between February and April 2002, an investigation was conducted to evaluate if historical operations at the Former South Storage Yard had contaminated soils. Forty-four soil samples and five grab groundwater samples were collected from Site 31. These soil and grab groundwater samples were analyzed for metals, volatile organic compounds (VOC), semivolatile organic compounds (SVOC), organochlorine pesticides, polychlorinated biphenyls (PCB), and total petroleum hydrocarbons (TPH) as extractables and purgeables (Tetra Tech 2002).

Exploratory Trenching and Time-Critical Removal Action

Based on information from a 1989 as-built drawing, an investigation of the northern portion of Parcel T-094 was conducted between May and August 2002 to explore the extent of the buried debris beneath the parcel (Shaw 2003). A part of this investigation area, which included the area beneath 11th Street and the sidewalks north and south of 11th Street, is located within the southernmost portion of Site 31. Based on results of the exploratory trenching investigation, a TCRA was initiated in July 2002. Activities conducted during the trenching investigation and removal action, as well as additional sampling to further characterize debris, are discussed below.

- **Exploratory Trenching**

  Between May and August 2002, 47 trenches were excavated at Parcels T094 and T095. Of these, 14 trenches were located within the boundary of Site 31 (SulTech 2006). Ten trenches at Site 31 were excavated beneath and on either side of 11th Street, within 30 feet of the water and gas pipeline alignment. The remaining four trenches were located just inside the fenced schoolyard of the elementary school.

  All trenches were logged for debris. The common types of debris found included glass, porcelain, metal (such as utensils, rusted iron and copper pieces, metal plating, nails, bars, and wire), and burned lumber. Locations of debris spanned both sides of 11th Street (see Figure 2).

Samples were collected from the sidewalls of each trench (Shaw 2003). Soil sampling depths and analytical suites differed depending on the phase of sampling. The samples were analyzed for metals, polycyclic aromatic hydrocarbons (PAHs), organochlorine pesticides, PCBs, TPH, and dioxins. Of these chemicals, only copper and lead were detected at concentrations exceeding field screening criteria (Shaw 2003).

- **Time-Critical Removal Action**

  In July 2002, a TCRA was conducted to excavate soil with chemicals (copper and lead) at concentrations exceeding the field screening criteria (Shaw 2003). The excavation areas are shown on Figure 2. The area of excavation did not include soil with elevated concentrations of chemicals of potential concern (COPCs) and debris beneath 11th Street or the associated sidewalks. Confirmation samples collected from the excavation sidewalls and bottom were targeted toward any burned debris that was encountered.

  The excavation on the north side of 11th Street is located within Site 31 and encompassed 3,200 square feet and ranged from 2 to 6 feet in depth (for a total volume of 450 cubic yards) (Shaw 2003). The excavation on the south side of 11th Street is within Site 30 and encompassed a total area of about 1,215 square feet and ranged in depth from 3 to 6 feet (Shaw 2003).

  After review of the analytical results of the confirmation samples and the trench logs, the BRAC Cleanup Team (BCT) concluded that the debris-contaminated soil which was not covered by asphalt or concrete in the northern and southern excavations had been adequately remediated and granted concurrence to backfill these excavations. Backfilling was completed in July and August 2002 (Shaw 2003).

- **Additional Sampling and Debris Characterization**

  Based on results of the TCRA and discussions with the regulatory agencies, the Navy decided further investigation of Site 31 was necessary to (1) evaluate if debris and associated concentrations of copper and lead in soils might be laterally continuous northward beneath the schoolyard; and (2) to further delineate areas of elevated concentrations of COPCs in soil (Shaw 2004).

  Between August 18 and September 22, 2003, soil samples were collected from 43 trenches and 6 direct-push soil borings within Site 31. Samples were analyzed for metals, VOCs, SVOCs, organochlorine pesticides, PCBs, and TPH as extractables and purgeables (Tetra Tech 2002). Analytical results indicated Debris Areas A, B, and E located along 11th Street (see Figure 2) and associated concentrations of copper and lead detected in soil during the Parcel T094 investigation and TCRA were unlikely to be laterally continuous beneath the elementary schoolyard. However, soil with localized debris and several chemicals exceeding field screening criteria were found within Debris Areas C and D (see Figure 2).

  Soil from five trenches within the northwestern quadrant (Debris Area C) contained lead, PAHs, TPH as diesel, TPH as motor oil, and dioxins at concentrations exceeding field screening criteria (Shaw 2004). Additionally, soil in one trench contained primarily

burned debris (up to 10 percent). Surrounding trenches contained only minor amounts of debris and chemicals at concentrations below the field screening criteria (Shaw 2004).

The area of contamination in the three trenches in the southeastern quadrant (Debris Area D) was smaller than in the northwestern quadrant. Concentrations of cadmium, lead, TPH as motor oil, and dioxins exceeded field screening criteria (Shaw 2004). Seven additional trenches were excavated to the north, east, and south of Debris Area D. Trench S031-03 was the only location with chemical concentrations exceeding the residential soil PRG for B(a)P. However, concentrations of B(a)P were less than the B(a)P-equivalent (EQ) concentration used for field screening (0.62 milligrams per kilogram [mg/kg]).

The Final Field Activity Report recommended the proposed Site 31 boundary be expanded east to encompass the additional area evaluated and to continue the CERCLA process at Site 31 (Shaw 2004). The revised boundary is shown on Figure 2.

Groundwater Microwell Installation

In 2004, eight direct-push borings were advanced and logged as part of an installation of temporary microwells to investigate groundwater at IR Sites 30 and 31 (SulTech 2004). Groundwater samples were analyzed for Title 22 metals, VOCs, SVOCs, organochlorine pesticides, PCBs, TPH, and dioxins (SulTech 2004). Sample results were used to evaluate the quality of groundwater at Site 31. Chemicals (such as pesticides, PCBs, and dioxins) detected in soil were not detected in groundwater at Site 31. Detections of site chemicals in groundwater did not contribute significantly to cumulative potential cancer risks or noncancer HI and are not considered to pose a threat to human health and the environment (SulTech 2006).

2.6 CURRENT AND POTENTIAL FUTURE LAND AND RESOURCE USE

2.6.1 Land Use

According to Figure 17 of the "Draft Naval Station Treasure Island Reuse Plan" (Reuse Plan) (CCSF 1996), the reuse for the area that includes Site 31 is designated as "Residential/Open Space/Publicly Oriented Uses." However, Table 7 of the Reuse Plan specifically identifies the elementary school for "Institutional Use" (CCSF 1996). Although the elementary school is currently closed, plans for the redevelopment of TI show a kindergarten through 8th grade school could be supported by the population (Fancher 2006). Reuse of the existing school for this purpose is likely, given the cost associated with developing new educational/institutional facilities (CCSF 1996). The southeast quadrant of Site 31 is slated for recreational development.

2.6.2 Resource Use

As part of the November 1995 groundwater sampling event, groundwater samples from all 86 wells at NAVSTA TI were analyzed for total dissolved solids (TDS). Using the TDS criterion of 3,000 milligrams per liter (mg/L) to define potential sources of drinking water as specified by the State Water Resources Control Board (SWRCB), Resolution No. 88-63, potentially suitable drinking water at NAVSTA TI exists from the water table surface to an estimated depth of 33 feet below ground surface (bgs).

The minimum production criterion to define potential sources of drinking water is a well yield of more than 200 gallons per day (SWRCB 1988). Pump tests, well development rates, and hydraulic conductivity values from slug testing (5 to 16 feet per day) indicate NAVSTA TI wells can yield more than 200 gallons per day.

Under the Bay Basin water quality control plan (Basin Plan), all groundwater within the Bay Basin that meets the criteria of SWRCB Resolution No. 88-63 has a potential beneficial use for municipal or domestic supply (SWRCB 1988). The Water Board, however, completed a pilot beneficial use designation project for several groundwater basins in San Francisco and Northern San Mateo Counties, including NAVSTA TI and YBI (Water Board 1996). The report indicated that the use of groundwater for municipal and domestic supply at NAVSTA TI would be limited by (1) the small volume of fresh groundwater available, (2) the likelihood of saltwater intrusion, and (3) potential future ground improvements for stability (stone columns and dynamic compaction). Consequently, the report recommended that the Basin Plan be revised so that groundwater at NAVSTA TI is no longer designated as a potential municipal or domestic water supply. These recommendations apply to current and future use of groundwater resources at Site 31 at NAVSTA TI.

In a letter from the Water Board to the Navy, the Water Board provided its concurrence that groundwater at NAVSTA TI meets the exemption criteria in SWRCB Sources of Drinking Water Resolution 88-63, but retains its designation for potential agricultural, process, and industrial supply (Water Board 2001).

2.7 SUMMARY OF SITE RISKS

The following sections provide a summary of the human health and ecological risks for Site 31.

2.7.1 Human Health Risks

The quantitative human health risk assessment (HHRA) for Site 31 at NAVSTA TI was presented in the Final Site 31 RI Report (SulTech 2006). To satisfy Federal (Navy and EPA) and State (DTSC) requirements, baseline risk estimates were prepared by two different methods in the HHRA, referred to as Method 1 (satisfying Federal requirements) and Method 2 (satisfying State requirements). These two methods differed in the manner in which COPCs and toxicity criteria were selected.

Receptor scenarios evaluated in the HHRA include current land use (current and altered conditions) and alternative land use (residential, commercial/industrial, and construction).

Exposure Assessment

Exposure scenarios are summarized below and in Figure 3. Both elementary school children and adult staff were considered potential receptors for evaluation under the current exposure setting in the event the elementary school is reopened. Two scenarios were evaluated for these receptors:

- Current site conditions, assuming direct contact exposures to soil were limited to surface soil (0 to 2 feet bgs) from the unpaved areas (between the schoolyard and Avenues D and E and 11th Street).

- Altered site conditions, assuming the schoolyard pavement is removed, thus exposing the underlying surface soil.

In the latter case, direct contact exposures for the elementary school receptors were limited to surface soil (0 to 2 feet bgs) from inside the schoolyard fence line. Landscape workers that may frequent the unpaved areas also were considered, but it was determined that the evaluation of exposure of elementary school staff would be protective of these potential workers.

Construction workers, residents, and commercial/industrial workers were also evaluated for alternative land use. Two scenarios were evaluated for residents and commercial/industrial workers following the hypothetical removal of all existing asphalt (including 11th Street) and other ground cover: (1) exposure to surface soils (0 to 2 feet bgs), and (2) exposure to combined surface and subsurface soils (0 foot bgs to the water tables), following more intrusive hypothetical redevelopment. The construction worker scenario was evaluated using exposure to combined surface and subsurface soils (0 foot bgs to the water tables). The evaluation of construction workers is considered representative of a utility worker who may infrequently visit the site.

Because the consumption of groundwater at Site 31 was not evaluated as a potential exposure pathway, potential exposure to chemicals in groundwater was limited to direct exposure to groundwater and inhalation of volatile chemicals that migrate upward into air (that is, subsurface vapor intrusion to indoor or outdoor air breathing zones). Exposure to vapors migrating from groundwater and soil into indoor air was not evaluated for elementary school receptors because Site 31 does not include any buildings, nor are any school buildings within 100 feet from sampling locations or wells where VOCs were detected. Exposure to vapors migrating from groundwater and soil into hypothetical buildings was evaluated for residents and commercial/industrial workers. Finally, exposure to groundwater via dermal contact was evaluated for construction workers engaged in excavation during redevelopment or for utility workers digging temporary trenches to repair subsurface utility lines.

Toxicity Assessment

The toxicity assessment for the HHRA included identification of toxicity values used to characterize noncancer health effects and cancer risk, respectively. Method 1 calculations used federal-recommended toxicity values and Method 2 used state-recommended toxicity values.

For Method 1, toxicity factors recommended by EPA Region IX were compiled from EPA-approved sources following the recommended hierarchy:

- Integrated Risk Information System (IRIS) (EPA 2005).

- EPA's Provisional Peer-Reviewed Toxicity Values (PPRTV) presented in EPA Region IX's PRG table (EPA 2004).

- Other EPA and non-EPA sources, including Office of Environmental Health Hazard Assessment (OEHHA). Agency for Toxic Substances and Disease Registry (ATSDR) minimal risk levels (ATSDR 2004), OEHHA's online resource, "Toxicity Criteria Database" (OEHHA 2005), and EPA's Health Effects Assessment Summary Tables (HEAST) (EPA 1997b).

For Method 2, DTSC recommended use of the most health-protective of Federal and OEHHA slope factors for evaluating cancer risks. To evaluate noncancer effects from inhalation exposures, inhalation reference dose (RfDs) or reference concentrations were compiled from IRIS, the OEHHA "Toxicity Criteria Database" (as reference exposure levels) (OEHHA 2005), or other EPA sources (PPRTVs, HEAST, or route extrapolated values), in decreasing order of priority.

RfDs were developed to evaluate noncancer effects, and cancer slope factors were developed to evaluate chemicals classified as known or potential human carcinogens (EPA 1989). In the event a chemical was considered to cause both cancer and noncancer adverse health effects, both slope factors and RfDs were listed for a chemical. Toxicity values were compiled for each COPC identified and cancer risks and noncancer adverse health effects were estimated.

Risk Characterization

The risk characterization step combines the results of the previously described steps to estimate cancer risks and noncancer effects (as HI). Because carcinogens and noncarcinogens manifest their effects through uniquely different mechanisms, adverse health effects are estimated separately for chemical carcinogens and noncarcinogens. For each receptor, cancer risks and HIs were estimated separately for each COPC and each complete exposure pathway. Cancer risk estimates and HIs were then summed across media and exposure pathways for a combined effect estimate. Table 1 summarizes the potential cancer risks and noncancer HIs for each of these receptors under reasonable maximum exposure (RME) conditions.

Estimated cancer risks for the elementary school child, elementary school staff, and construction worker were within the EPA risk management range (10^{-6} to 10^{-4}) for both current site conditions (paved) and altered site conditions (unpaved). Estimated cancer risks for the hypothetical child/adult resident and commercial/industrial worker were within the cancer risk management range under Method 1, but above the risk management range under Method 2. The estimated HIs were less than the threshold of 1 for noncancer effects (EPA 1989) for all receptors except hypothetical residents and commercial/industrial workers. Site chemicals detected in groundwater did not contribute significantly to cumulative potential cancer risks or noncancer HIs.

LeadSpread modeling (DTSC 1999) was performed to evaluate the potential for human health effects caused by lead in the elementary school child and the adult and child residents. LeadSpread modeling results were below the target criteria (99th percentile concentrations below 10 micrograms per deciliter) for the elementary school child and child/adult residents exposed to lead in surface soils. However, LeadSpread modeling results were above the target criteria for child residents exposed to lead in combined surface and subsurface soils. To evaluate potential harmful effects from exposure to lead in soil for elementary school staff, construction workers, and commercial/industrial workers, exposure point concentrations (EPCs) were compared with

the EPA Region IX PRG for industrial soil of 800 mg/kg (EPA 2004). The lead EPCs in the three surface soil data sets, ranging from 149 mg/kg to 346 mg/kg, were well below the 800 mg/kg benchmark, but the lead EPC in site-wide combined surface and subsurface soil, 858 mg/kg, exceeded the benchmark.

Elevated concentrations of the cancer risk drivers B(a)P, dioxins, and other PAHs with B(a)P-like toxicity, as well as naphthalene and lead, were mostly limited to the debris areas. To account for potential exposure of utility workers to combined surface and subsurface soil in the utility corridor beneath 11th Street (Debris Area E), a focused hotspot evaluation was performed and RME potential cancer risks and noncancer hazards were estimated using construction worker exposure parameters. Under both Method 1 and Method 2, the potential cancer risks were less than 1×10^{-6} and the HIs were less than 1. However, the estimated lead EPCs exceeded 800 mg/kg.

A separate Tier I screening-level risk assessment protective of recreational visitors was also conducted to evaluate the potential redevelopment of the southeast quadrant of Site 31 into a recreational area (Navy 2001). Potential cancer risks of 1×10^{-5} and 4×10^{-5} were estimated for exposure to surface soil (0 to 2 feet bgs) and combined surface and subsurface soil (0 foot bgs to groundwater), respectively, in the southeast quadrant. HIs estimated for exposure to surface soil (0 to 2 feet bgs) and combined surface and subsurface soil (0 foot bgs to groundwater) were both equal to the threshold of 1. LeadSpread modeling using default exposure parameter values for residents as protective of recreational exposure results were above the target criteria for child residents exposed to lead in combined surface and subsurface soils.

Finally, a separate indoor air vapor intrusion evaluation was conducted for receptors at the daycare center south of Site 31 (Site 30) to determine the potential for subsurface migration of VOCs detected at Site 31. The estimated Method 1 and Method 2 HIs for the daycare center receptors were less than 1. Using site-specific average vapor flow rate (Q_{soil}) values in the vapor intrusion model, the Method 1 potential cancer risks estimated for both daycare center children and daycare center staff and the Method 2 potential cancer risks estimated for daycare center children were found to be below the EPA risk management range (10^{-6} to 10^{-4}). The Method 2 potential cancer risk estimated for the daycare center staff using site-specific Q_{soil} slightly exceeded 1×10^{-6}.

Contaminants of Concern for Site 31

The COCs identified for Site 31 are B(a)P, dioxins, and lead. B(a)P and dioxins were identified as COCs for (1) elementary school receptors under altered site conditions in which the schoolyard is redeveloped as an unpaved play yard; (2) site-wide residential and commercial/industrial worker exposure to soil; and (3) recreational visitor exposure to soil in the southeast quadrant. Lead was identified as a COC for all alternative land use scenarios involving exposure to site-wide combined surface and subsurface soil (0 foot bgs to groundwater) and for potential utility worker exposure to combined surface and subsurface soil beneath 11th Street. No COCs were identified for elementary school receptors under current site conditions.

Although naphthalene was also identified as a risk driver, all detected concentrations of naphthalene are commingled with elevated concentrations of the other COCs [B(a)P, dioxins, and lead] identified for Site 31. Remedial alternatives designed to address the elevated

concentrations of B(a)P, dioxins, and lead in Debris Areas C, D, and E would coincidentally address the detected concentrations of naphthalene that may pose an unacceptable indoor air inhalation hazard to hypothetical residential and commercial/industrial use. As a result, risk management of naphthalene is not recommended and, therefore, was excluded from the COC list.

The table below lists the COCs for each of the five debris areas identified during the investigation.

Debris Area	Area (ft^2)	Chemicals of Concern
A	400	Lead
B	400	Lead
C	11,500	Dioxins, B(a)P
D	3,000	Dioxins, B(a)P
E	6,600	Lead

Uncertainty Analysis

The HHRA included a number of uncertainties inherent in the risk assessment process. Depending on the type of uncertainty, impacts to HHRA results can include an over- or underestimation of cancer risks or HIs.

Uncertainties were identified in association with four areas of the exposure assessment process: (1) selection of exposure scenarios, (2) selection of exposure pathways, (3) estimation of EPCs, and (4) selection of exposure variables used to estimate chemical intake. All uncertainties are expected to result in conservative estimates rather than underestimation of unforeseen human health risks. Even considering a few uncertainties contributing to a small underestimate of risk, the compounding conservatism in the HHRA process is expected to negate the assumptions that may lead to underestimating risks. Details of the exposure assessment uncertainties are discussed in the RI report (SulTech 2006).

2.7.2 Ecological Risks

A Tier I screening-level ecological risk assessment (SLERA) for terrestrial receptors exposed to soil was performed at IR Sites 6, 12, 21, 24, 30, 31, 32, and 33 (SulTech 2007b). Navy policy for conducting environmental risk assessments identifies a three-tiered approach that incorporates different levels of complexity. This approach consists of the following tiers: Tier I, SLERA; Tier II, Baseline Ecological Risk Assessment (BERA); and Tier III, evaluation of remedial alternatives. Sites identified in Tier I as posing potential unacceptable risks proceed to a Tier II BERA. The SLERA did not identify any ecological resources or processes at TI that needed to be protected or sustained. Based on the overall poor quality of the habitat on TI, the Navy does not recommend further evaluation of ecological risk in a Tier II assessment (SulTech 2007b). The SLERA is described below.

Identification of Chemicals of Potential Ecological Concern

All detected inorganic and organic chemicals in soil, except for essential nutrients such as calcium, iron, magnesium, potassium, and sodium, were selected for evaluation as preliminary chemicals of potential ecological concern (COPECs) for IR Sites 6, 12, 21, 24, 30, 31, 32, and 33. Analytical data for soil samples (0 to 4 bgs) within the boundaries of each site collected between 1992 and 2005 were used for preliminary identification of COPECs.

Exposure Assessment

Exposure pathways and routes were evaluated during the SLERA. Figure 4 shows the potential ecological receptors and pathways for the sites studied in the SLERA.

Definitions of valuable ecological resources include those without which ecosystem function would be significantly impaired; those that provide critical resources; and those perceived by humans as valuable, such as endangered species (EPA 1997a, 1998; Navy 1999, 2004). TI is not a natural ecosystem; rather, it is a man-made island built from dredge material from the Bay. TI has never supported a natural ecosystem or provided habitat for valuable ecological receptors. Due to the artificial and disturbed nature of the sites, exposure to plants and invertebrates is limited to opportunistic species that can adapt to high disturbance regimes. Future exposure will also be limited to species adapted to urban, landscaped habitats because urban redevelopment is planned for each of the sites once TI has been transferred (CCSF 1996). Although the exposure pathway evaluation links site contaminants in soil to ecological receptors, it does not link ecologically valuable endpoints to contamination.

Habitat surveys conducted at Site 31 did not identify any ecological resources or processes without which ecosystem function would be significantly impaired. Based on the overall poor quality of the habitat on TI, no further evaluation of ecological risk is necessary in a Tier II assessment for Site 31.

Ecological Effects Assessment

Assessment endpoints are environmental characteristics that, if significantly impaired, would indicate a need for action by risk managers. Because of the poor-quality habitat, receptor use of TI is limited to opportunistic species that are adapted to urban environments. Loss of one or more of the species present on TI would not result in any disruption or change to the current ecosystem. However, because assessment endpoints are necessary to proceed to Step 2 of the SLERA, assessment endpoints were selected based solely on trophic levels present on TI and include urban species adapted to industrial and landscaped habitat.

Ecological Risk Characterization

In a SLERA, it is necessary to identify (1) what specifically is to be protected, and (2) which ecological resources and processes must be sustained and for what reason. TI is not a natural ecosystem; rather, it is a man-made island built from dredge material from the Bay. TI has never supported a natural ecosystem or provided habitat for ecologically relevant receptors. Future exposure will also be limited to species adapted to urban, landscaped habitats because urban redevelopment is planned for each of the sites once TI has been transferred (CCSF 1996).

The SLERA did not identify any ecological resources or processes at TI that needed to be protected or sustained. Based on the overall poor quality of the habitat on TI, no further evaluation of ecological risk in a Tier II assessment is necessary for Site 31. The SLERA fulfills the CERCLA requirement for conducting an ecological risk assessment (ERA) to assess threats to the environment for these sites.

2.7.3 Basis for Taking Action

The response action selected in this ROD/RAP is necessary to protect the public health or welfare from actual or threatened releases of hazardous substances into the environment. Specifically, the response action addresses risk posed by contaminants in soil to human receptors at the site. RAOs were developed to address this risk, as discussed below.

2.8 REMEDIAL ACTION OBJECTIVES

RAOs are medium-specific (soil, groundwater, or air) goals for protecting human health or the environment. According to EPA guidance, an RAO should specify (1) the COC; (2) exposure routes and receptors, and (3) an acceptable contaminant level or range of levels for each exposure route (i.e., remediation goals) (EPA 1988). The remedial goals are usually chemical concentration limits, which provide a quantitative means of identifying areas for potential remedial action, screening the types of appropriate technologies, and assessing a remedial action's potential for achievement of the RAO. Remedial goals are also the performance requirements and the main basis for measuring the success of the response actions.

The following RAOs were developed for protection of human health based on the identified COCs and the affected media. The RAOs were developed for (1) the potential reopening of the elementary school with the schoolyard pavement removed, and (2) any future unrestricted residential or commercial/industrial use. Residential or commercial/industrial use of the property is not projected in the Reuse Plan and is therefore considered hypothetical. These alternative land use scenarios conservatively assume all hardscape, including streets and sidewalks, is no longer paved and that residential or commercial/industrial areas are developed in its place. The only medium that presents a concern at Site 31 is soil; therefore, RAOs were developed for soil only. The following RAOs and remediation goals were developed for each human receptor at Site 31 based on the land use scenarios described above, the COCs, and the potential exposure routes developed for this site:

- Elementary school child and staff receptor: prevent direct contact with and ingestion of shallow soils containing B(a)P-EQ concentrations exceeding 0.62 mg/kg and dioxin toxic equivalent (TEQ) concentrations exceeding the NAVSTA TI ambient level of 12 nanograms per kilogram (ng/kg).

- Construction worker: prevent direct contact with and ingestion of soils containing lead at concentrations exceeding 800 mg/kg.

- Recreational visitor: prevent direct contact with and ingestion of soils located in the southeastern quadrant containing B(a)P-EQ concentrations exceeding 0.62 mg/kg and dioxin TEQ concentrations exceeding 12 ng/kg.

- Residential receptor: prevent direct contact with and ingestion of soil containing B(a)P-EQ concentrations exceeding 0.62 mg/kg, dioxin TEQ concentrations exceeding 12 ng/kg, and lead at concentrations exceeding 400 mg/kg.

- Commercial/industrial worker: prevent direct contact to and ingestion of soils containing B(a)P-EQ concentrations exceeding 0.62 mg/kg, dioxins TEQ concentrations exceeding 12 ng/kg, and lead at concentrations exceeding 800 mg/kg.

Risk was evaluated specific to a recreational visitor using the southeastern quadrant of Site 31, the only portion of the site planned for recreational use. This risk evaluation was used in developing the RAO for the recreational visitor.

The only designated COCs at Site 31 are B(a)P, dioxins, and lead. RAOs for the protection of aquatic and terrestrial ecological receptors from soil were not developed based on results of the SLERA (SulTech 2007b). Most of Site 31 is covered with the paved areas of the schoolyard, creating an incomplete terrestrial pathway for COCs.

The uncertainties identified in the HHRA are likely to result in overestimation of risk at Site 31; therefore, the RAOs established for the site represent a conservative level of protection.

For the selected remedy for Site 31, Alternative 5, the RAOs represent concentrations that shall not be exceeded in the final confirmation samples to be collected as a part of the remediation. If the RAO concentrations are exceeded in the confirmation samples, additional soil will be excavated to the extent that is technically practical.

2.9 DESCRIPTION OF ALTERNATIVES

Based on the results of the RI, a FS was conducted to evaluate remedial alternatives for Site 31. The FS presented a screening of remedial technologies and general process options and developed five remedial alternatives for Site 31:

- Alternative 1: No Action

- Alternative 2: Engineering Controls (ECs) Combined with Institutional Controls (ICs)

- Alternative 3: ECs and ICs, Hot Spot Excavation (Debris Area E), and Off-site Disposal

- Alternative 4: ECs and ICs, Hot Spot Excavation (Debris Areas C and D, Excluding Street), and Off-site Disposal

- Alternative 5: Complete Removal of Debris Areas A, B, C, D, and E, and Off-site Disposal

Each alternative is described below, followed by a comparison of the alternatives based on the nine EPA criteria.

2.9.1 Alternative 1: No Action

Under this alternative, no remedial action would be performed at Site 31. No efforts would be made to contain, remove, monitor, or treat the contaminated soil at the site. No cost is associated with Alternative 1. This alternative would not meet the established RAOs because no remedial action or controls would be implemented. The NCP requires the no action response be evaluated in every FS because it provides a baseline for comparison to the other remedial alternatives (40 Code of Federal Regulations [CFR] Subsection 300.430[e][6]).

2.9.2 Alternative 2: Engineering Controls Combined with Institutional Controls

Remedial Alternative 2 uses a combination of ECs and ICs to reduce exposure to COCs identified in soils beneath hardscape at Site 31. This alternative would use ECs and ICs to ensure the existing asphalt and concrete hardscape at Site 31 is maintained as an exposure prevention barrier and provide for required repairs or improvements to subsurface utilities. The ICs would also limit commercial/industrial or residential use of the property.

The Final RI Report concluded existing site conditions are considered protective of human health and the environment under current land uses at Site 31 (SulTech 2006). However, it would be necessary to reduce potential risk to human health from exposure to COCs in soil if the school is reopened in the future with the schoolyard pavement removed (altered site conditions), or the area is redeveloped and the existing asphalt and concrete hardscape at Site 31 is removed. Implementation of Remedial Alternative 2 would require maintenance of the existing asphalt and concrete hardscape as an exposure prevention barrier. Alternative 2 would provide the necessary legal provisions for a combination of ECs and ICs for any required repairs or improvements to subsurface utilities beneath the paved schoolyard area and 11th Street.

Alternative 2 would meet the RAOs listed in Section 2.9 by preventing exposure to COCs through the use of ECs and ICs that require monitoring, maintaining, and reporting on the effectiveness and integrity of existing exposure prevention barriers and/or by restricting land use. ECs and ICs would protect receptors from COC concentrations by preventing a complete exposure pathway. Alternative 2 is anticipated to take nine months to complete. The cost for maintaining, monitoring, and reporting ECs and ICs is based on a 30-year lifecycle.

Engineering Controls

ECs considered for Site 31 include maintaining the asphalt and concrete hardscape as exposure prevention barriers. Review of lithologic and trench excavation data from previous reports indicated the schoolyard area is covered in asphalt, ranging typically from 4 to 6 inches thick with 0 to 4 inches of sub-base material. The parking lot appears to be of a similar construction, with a more consistent asphalt thickness and sub-base. The road and intersection consist of 6 inches of asphalt, 4 inches of sub-base, and 2 inches of sand. The thickness of the concrete was not documented, and various assumptions were made for the sidewalk and curbs. The existing hardscape is assumed not to require immediate repair to continue to function as an exposure prevention barrier; however, periodic inspections and routine maintenance would be required. RAOs for all receptors would be satisfied because the maintenance of existing exposure prevention barriers controls would prevent direct contact with contaminated soil.

Institutional Controls

Under Alternative 2, ICs would protect site occupants from exposure to contaminated soils by prohibiting site occupants from removing or penetrating surfaces that act as exposure prevention barriers, except when specific guidelines are followed to prevent exposure from underlying contaminated soils. Since the elementary school and 11th Street may be used under the current site use plan, provisions would be made to allow for utility repair, such as water or sewer lines, as may be required with the general maintenance of the school and 11th Street. These measures would require that all subsurface work within the contaminated zone use detailed procedures designed to prevent exposure of the occupants and workers from exposure to COCs in soil.

The following ICs and measures would be required to implement Alternative 2:

- DTSC would enter into a land use covenant that requires maintenance of the existing exposure prevention barriers with provision for utility repairs, as necessary.
- A deed notice would be recorded to notify the public about the existence of the contamination.
- ECs and ICs would be implemented that would require the monitoring, maintenance, and annual reporting on the effectiveness of existing hardscape as an exposure prevention barrier.
- A remedial action work plan (RAWP) would be developed to specify the roles and responsibilities for implementing, monitoring, and enforcing the ICs (DoD 2004).
- Five-year reviews and reporting would be conducted to ensure the continued effectiveness of the ECs and ICs.
- Deed restrictions would be put in place restricting commercial/industrial and residential reuse of the site.

2.9.3 Alternative 3: Engineering Controls, Institutional Controls, and Excavation (Debris Area E) and Off-site Disposal Soil

Alternative 3 includes all components of Alternative 2, with the addition of limited active demolition of 11th Street, excavation to a maximum depth of 4 feet bgs, and disposal of soil containing elevated concentrations of lead associated with Debris Area E (see Figure 2) at an off-site, permitted hazardous waste landfill. Demolished concrete and pavement would be disposed of in a nonhazardous landfill. Lead is considered the principal COC in Debris Area E based on the results in the HHRA for evaluation of construction/utility worker exposure to lead in soil exceeding 800 mg/kg (SulTech 2006). An excavation depth of 4 feet is assumed to meet this goal, however, actual depth would depend on confirmation samples collected during removal activities. Thus, Alternative 3 would meet the RAOs for a construction or utility worker, as listed in Section 2.9.

Following active remediation of Debris Area E, ECs and ICs would be implemented to prevent exposure of residential receptors to lead at concentrations exceeding 400 mg/kg. Additionally, residential, commercial/industrial worker, and recreational exposure to B(a)P-EQ concentrations

exceeding 0.62 mg/kg, dioxin-TEQ concentrations exceeding 12 ng/kg, and lead greater than 800 mg/kg would be prevented by implementing site-wide ECs and ICs. ECs and ICs would protect human receptors from COC concentrations in soil by preventing a complete exposure pathway. ECs and ICs would require monitoring, maintaining, and reporting on the effectiveness and integrity of existing exposure prevention barriers. ICs would also restrict residential and commercial/industrial reuse of Site 31, thus it would meet the RAO for residential receptors and commercial/industrial workers. Alternative 3 is anticipated to take 16 months to complete.

Engineering and Institutional Controls

The relative scale of activities and, therefore, the associated costs are assumed to be the same as in Alternative 2 based on the small size of the site and the long-term duration of the ICs and ECs (30 years). Existing fencing is located at the perimeter of the schoolyard and the daycare center located across 11th Street from Site 31. Additional security fencing will be installed at each end of 11th Street to limit public access and potential exposure during removal actions. The additional fencing would be removed once the road surface has been restored and all stockpiled material has been removed.

Excavation (Debris Area E)

Excavation of Debris Area E would involve the demolition of 11th Street and the adjacent sidewalks to excavate soil contaminated with lead to a maximum depth of 4 feet. The area was delineated based on previous sampling results and is estimated at 6,600 square feet (see Figure 2). Approximately 1,220 cubic yards (accounting for a 25 percent bulking factor once it is excavated) of lead-contaminated soils would be removed and the excavation areas would be delineated by collecting confirmation soil samples. The excavation would be backfilled with clean soil, properly compacted in appropriate engineered lifts, and the excavated area of 11th Street and the adjacent sidewalks would be restored to current grade and conditions.

Excavation activities would last approximately one week. The cost estimate for this alternative assumed that soil beneath the entire debris area would be removed to a depth of 4 feet bgs. Demolished asphalt and concrete from 11th Street would be segregated from targeted contaminated soils. An estimated 212 cubic yards of demolition debris (asphalt and concrete paved surface) would be disposed of as nonhazardous waste at a permitted landfill.

Off-site Disposal of Soil

Asphalt and concrete from demolition of 11th Street would be segregated from stockpiled contaminated soils. Stockpiled soils would be properly characterized and transported by an approved waste hauler for proper disposal at a permitted landfill. Asphalt and concrete would be transported by a licensed transporter to a permitted landfill for demolition debris.

It is assumed an estimated 1,220 cubic yards of contaminated soil would be excavated, characterized, and transported as hazardous waste to a permitted landfill for disposal.

2.9.4 Alternative 4: Engineering Controls, Institutional Controls, and Excavation (Debris Areas C and D Excluding Street) and Off-site Disposal of Soil

Alternative 4 involves the same ECs and ICs as Alternative 2, coupled with the proposed excavation of soils from areas with elevated COC concentrations within Debris Areas C and D. Debris Area C is located within the asphalt schoolyard (see Figure 2), and Debris Area D consists of a portion of the parking lot on the northeast corner of 11th Street and Avenue E.

Under Alternative 4, 11,500 square feet of asphalt on the surface of Debris Area C, as well as 3,000 square feet of asphalt on the surface of Debris Area D, would be demolished and soil removed to a maximum depth of 4 feet bgs. The cost estimate assumed that 2,685 cubic yards of contaminated soil (accounting for a 25 percent bulking factor once the soil is excavated) would be excavated and transported as hazardous waste to a permitted landfill for disposal. An estimated 707 cubic yards of asphalt and concrete would be disposed of as nonhazardous waste at a permitted landfill. The excavation would be backfilled with clean material and returned to approximately the existing grades and conditions.

Alternative 4 would meet the RAOs listed in Section 2.9 for elementary school children and staff and recreational visitors by active remediation of Debris Areas C and D. Excavation to a depth of 4 feet bgs in Debris Areas C and D is expected to remove soils with B(a)P-EQ concentrations greater than 0.62 mg/kg and dioxin-TEQ concentrations greater than 12 ng/kg. Alternative 4 would also restrict residential and commercial/industrial reuse of Site 31, thus it would meet the RAO for residential receptors and commercial/industrial workers. Exposure of residents and construction workers to lead at concentrations exceeding 400 and 800 mg/kg, respectively, would be prevented by implementing ECs and ICs in Debris Areas A, B, and E following active remediation of soils in Debris Areas C and D. ECs and ICs would be required because Alternative 4 does not involve complete excavation of COCs in all debris areas and would not support unrestricted use of the site. Alternative 4 is anticipated to take 17 months to complete.

Excavation (Debris Area C)

Excavation of Debris Area C would remove areas of elevated concentrations of COCs in soil to a maximum depth of 4 feet. Demolition of 490 cubic yards of asphalt within Debris Area C would be required to complete excavation activities. The area was delineated based on previous sampling results and is estimated to be 11,500 square feet. Asphalt would be segregated from excavated soils and disposed of as nonhazardous waste. The contaminated soils would be removed and the excavation areas would be delineated by collecting confirmation soil samples. The estimated volume of soils that would be excavated within Debris Area C is 2,130 cubic yards (accounting for a 25 percent bulking factor once it is excavated). The excavation would be backfilled with clean soil, properly compacted in appropriate engineered lifts, and the excavated paved area of the Debris Area C schoolyard would be restored to current grade and conditions.

Excavation (Debris Area D)

Excavation of Debris Area D would be performed to a maximum depth of 4 feet in areas with elevated COC concentrations. Demolition of 127 cubic yards of asphalt within Debris Area D would be required to complete excavation activities. The area was delineated based on previous sampling results and is estimated to be 3,000 square feet. Removal of the area with elevated

COC concentrations within Debris Area D would be limited to the parking area. Excavation would not include the area beneath 11th Street and Avenue E. The estimated volume of soils that would be excavated within Debris Area D is 555 cubic yards (accounting for a 25 percent bulking factor once it is excavated). The excavation would be backfilled with clean soil, properly compacted in appropriate engineered lifts, and the excavated paved area of Debris Area D would be restored to current grade and conditions. Excavation of Debris Areas C and D is anticipated to take 3 weeks to complete.

Off-site Disposal

Asphalt from demolition of the playground and parking lot would be segregated from targeted contaminated soils. Excavated soils would be properly characterized during excavation and transported by an approved waste hauler for proper disposal at a permitted hazardous waste landfill. Asphalt and concrete would be transported by licensed transporters to a permitted nonhazardous landfill.

2.9.5 Alternative 5: Complete Removal of Debris Areas A, B, C, D, and E, and Off-site Disposal of Soil

Alternative 5 involves the removal of all soils with COCs greater than remediation goals within Debris Areas A, B, C, D, and E. This alternative is intended to meet the DoD requirement to evaluate an alternative that allows for unrestricted use of the site if other alternatives evaluated include EC and ICs.

Alternative 5 is the most extensive of the alternatives evaluated and involves complete excavation of Debris Areas A, B, C, D, and E to a depth of 6 feet bgs. An excavation depth of 6 feet bgs was conservatively selected to allow for over-excavation in areas of known contamination and assumes all contaminated soil would be removed. The intent of the removal of Debris Areas A, B, C, D, and E is to achieve unrestricted use of Site 31. It is assumed that following the completion of this alternative, the RAOs will have been achieved without the need for ICs. For the purpose of developing a cost estimate, the excavation depth of 6 feet bgs was chosen based on dioxin concentrations exceeding the NAVSTA TI dioxin ambient level of 12.0 ng/kg at a maximum depth of 5 feet bgs. A temporary security fence would be installed around the site to prevent unauthorized access during remedial activities. Based on an excavation depth of 6 feet bgs, it is assumed a total of 21,900 square feet of soil beneath the entire Debris Areas A, B, C, D, and E and an estimated 6,080 cubic yards of contaminated soil (accounting for a 25 percent bulking factor once the soil is excavated) would be excavated and transported as hazardous waste to a permitted landfill for disposal. Additionally, an estimated 930 cubic yards of asphalt and concrete hardscape (demolition debris) from all debris sites would require disposal as nonhazardous waste at a permitted landfill. The excavation would be backfilled with clean material and returned to approximately the existing grade. Replacement of the street and the parking lot are included in the cost estimate for this alternative. However, actual replacement of hardsurfaces would be a management decision during preparation of the RAWP.

The intent of the remedial action described in Alternative 5 is to achieve unrestricted use of the site. It is assumed that, following the completion of this alternative, the RAOs will have been achieved without the need for ECs and ICs. However, soils containing dioxin concentrations above the remediation goal may exist deeper than 6 feet bgs. For the purpose of developing a

cost estimate, the depth of 6 feet bgs was chosen based on the analytical results indicating that elevated dioxin concentrations are present to a maximum depth of 5 feet bgs. Confirmation samples will be collected following excavation to assure removal of soil with contaminant concentrations exceeding the remediation goals, at depths greater than 6 feet bgs also, if required.

ECs and ICs would not be required because Alternative 5 assumes complete excavation of Debris Areas A, B, C, D, and E, which would support unrestricted use of the site. The RAOs discussed in Section 2.9 would be met by removing COCs from Debris Areas A, B, C, D, and E, thereby eliminating risk to elementary school children and staff, residents, commercial/industrial workers, recreational visitors, and construction workers. Alternative 5 is anticipated to take 18 months to complete. Following completion of this alternative, the RAOs will have been achieved without the need for ICs. Details of the confirmation sampling program during excavation will be provided in the RAWP, including confirmation sampling procedures and frequency, procedures to be followed in the event that a confirmation sample exceeds a RAO, as well as procedures to follow if groundwater is encountered during excavation.

Excavation (Debris Area A)

Debris Area A is a crescent-shaped area just north of 11th Street within the schoolyard (see Figure 2). The asphalt within Debris Area A would be demolished to excavate elevated concentrations of lead in soil to a depth of 6 feet. The area was delineated based on previous sampling results and is estimated to be 400 square feet in size (SulTech 2006). Based on this area, the estimated volume of soils that would be excavated within Debris Area A is 111 cubic yards (accounting for a 25 percent bulking factor once it is excavated). Approximately 5 cubic yards of demolished hardscape would be segregated from excavated soils and disposed of as nonhazardous waste.

The contaminated soils would be removed, and adequate removal of lead would be verified by collecting confirmation soil samples. When data for confirmation soil samples demonstrate that the RAOs defined in Section 2.9 have been achieved, the excavated area would be backfilled with clean soil, properly compacted in appropriate engineered lifts, returned to grade, and the asphalt area restored.

Excavation (Debris Area B)

Excavation of Debris Area B involves demolition of a crescent-shaped area of asphalt just north of 11th Street within the schoolyard (see Figure 2) to excavate elevated concentrations of lead in soil to a depth of 6 feet bgs. The area was delineated based on previous sampling results and is estimated to be 400 square feet in size (SulTech 2006). Based on this area, the estimated volume of soils that would be excavated within Debris Area B is 111 cubic yards (accounting for a 25 percent bulking factor once it is excavated). Approximately 5 cubic yards of demolished hardscape would be segregated from excavated soils and disposed of as nonhazardous waste.

The contaminated soils would be removed, and adequate removal of lead would be verified by collecting confirmation soil samples. When data for confirmation soil samples demonstrate that the remediation goals defined in Section 2.9 have been met, the excavation would be backfilled with clean soil, properly compacted in appropriate engineered lifts, returned to grade, and the asphalt area restored.

Excavation (Debris Area C)

Excavation of Debris Area C involves demolition of asphalt within the existing schoolyard in Debris Area C to remove elevated concentrations of COCs in soil to a depth of 6 feet. The area was delineated based on previous sampling results and is estimated to be 11,500 square feet in size (SulTech 2006). Based on this area, the estimated volume of soils that would be excavated within Debris Area C is 3,195 cubic yards (accounting for a 25 percent bulking factor once it is excavated). Approximately 490 cubic yards of demolished hardscape would be segregated from excavated soils and disposed of as nonhazardous waste.

The contaminated soils would be removed, and adequate removal of COCs would be verified by collecting soil samples for analysis of COCs. When data for confirmation soil samples demonstrate that the remediation goals defined in Section 2.9 have been achieved, the excavation would be backfilled with clean soil, properly compacted in appropriate engineered lifts, returned to grade, and the asphalt area restored.

Excavation (Debris Area D)

Excavation of Debris Area D would involve demolition of both asphalt and concrete associated with the parking lot and extending into the street at the intersection of 11th Street and Avenue D. The area was delineated based on previous sampling results and is estimated to be 3,000 square feet (SulTech 2006). Based on this area, the estimated volume of soils that would be excavated within Debris Area D is 833 cubic yards (accounting for a 25 percent bulking factor once it is excavated). Approximately 127 cubic yards of demolished hardscape would be segregated from excavated soils and disposed of as nonhazardous waste.

Soils with COCs in Debris Area D would be removed to a depth of 6 feet bgs, and adequate removal of COCs would be verified by collecting confirmation soil samples. When data for confirmation soil samples demonstrate that the remediation goals defined in Section 2.9 have been achieved, the excavation would be backfilled with clean soil, properly compacted in appropriate engineered lifts, and returned to grade. The excavated area of Debris Area D would be replaced to grade, and repaved similar to current conditions.

Excavation (Debris Area E)

Excavation of Debris Area E involves demolition of 11th Street and the adjacent sidewalks within the debris area to remove soil contaminated with lead to a depth of 6 feet bgs. It is anticipated that traffic would be rerouted during demolition of 11th Street and subsequent excavation. The area was delineated based on previous sampling results and is estimated to be 6,600 square feet (SulTech 2006a). Based on this area, the estimated volume of soils that would be excavated within Debris Area E is 1,833 cubic yards (accounting for a 25 percent bulking factor once it is excavated). Approximately 300 cubic yards of demolished hardscape would be segregated from excavated soils and disposed of as nonhazardous waste.

The lead-contaminated soils would be removed, and adequate removal of contaminated soil would be verified by collecting confirmation soil samples. When data for confirmation soil samples demonstrate that the remediation goals defined in Section 2.9 have been achieved, the excavation would be backfilled with clean soil, properly compacted in appropriate engineered lifts, the excavated area would be replaced to grade, and the sidewalks and street replaced to current conditions.

Off-site Disposal

Asphalt and concrete generated during excavation activities would be segregated from the targeted contaminated soils. Stockpiled soils would be properly characterized during excavation and transported by an approved waste hauler for proper disposal at a permitted landfill. Asphalt and concrete would be transported by licensed transporters to a nonhazardous debris landfill.

2.10 EVALUATION OF ALTERNATIVES

The remedial action alternatives considered represent a range of distinct environmental restoration strategies that fulfill the RAOs associated with dioxin contamination in soil at Site 31. The alternatives were evaluated against the nine EPA criteria listed below, as summarized in Table 2.

- **Overall Protection of Human Health and the Environment** determines whether an alternative eliminates, reduces, or controls threats to public health and the environment through ICs, ECs, or treatment.

- **Compliance with ARARs** evaluates whether the alternative meets Federal and State environmental statutes, regulations, and other requirements that pertain to the site.

- **Long-Term Effectiveness and Permanence** considers the ability of an alternative to maintain protection of human health and the environment over time.

- **Reduction of Toxicity, Mobility, or Volume of Contaminants through Treatment** evaluates an alternative's use of treatment to reduce the harmful effects of principal contaminants, their ability to move in the environment, and amount of contamination present.

- **Short-Term Effectiveness** considers the length of time needed to implement an alternative and the risks the alternative poses to workers, residents, and the environment during implementation.

- **Implementability** considers the technical and administrative feasibility of implementing the alternative, including factors such as the relative availability of goods and services.

- **Cost** includes estimated capital and annual operations and maintenance (O&M) costs, as well as present worth cost. Present worth cost is the total cost of an alternative over time in terms of today's dollar value. Cost estimates are expected to be accurate within a range of +50 to -30 percent.

- **Community Acceptance** considers whether the local community agrees with the Navy's analyses and preferred alternative. Comments received on the PP/Draft RAP are an important indicator of community acceptance.

- **Regulatory Approval** considers whether the State agrees with the Navy's analyses and recommendations, as described in the RI/FS and PP/Draft RAP.

These criteria are used to evaluate the cleanup alternatives proposed for this site. The first seven criteria are discussed in the following alternative comparison. The last two criteria were addressed during public comment and regulatory agency review periods. The final remedy decision for Site 31 was made by the Navy and the State regulatory agencies after receiving and evaluating public input.

2.10.1 Overall Protection of Human Health and the Environment

Alternative 5 is protective of human health under all land use scenarios. Alternatives 2, 3, and 4 employ ECs and ICs to ensure human exposure pathways remain incomplete by (1) requiring the existing schoolyard paving to remain and be periodically inspected and maintained, and (2) requiring any alternative future reuse of the property to preserve the existing paving.

- Alternative 5 would remove any contaminated soil and the source for potential human health risk under all use scenarios.
- Alternatives 3 and 4 would remove contaminated soil in varying quantities, representing elimination of risk under various exposure pathways.
- Alternative 1 is the least protective of human health and the environment.

2.10.2 Compliance with Applicable or Relevant and Appropriate Requirements

No potential chemical-specific ARARs for soil that present a numerical cleanup goal were identified. There are no chemical-specific ARARs for soil other than the waste characterization requirements, therefore, remediation goals for Site 31 are based on ambient levels, EPA Region IX PRGs, and remediation goals. No location-specific ARARs were identified for Site 31.

- No action-specific ARARs apply to Alternative 1 because it does not involve initiation of any action.
- Alternatives 2, 3, and 4 would comply with the potential action-specific State ARARs for ICs, as identified in the FS.
- Action-specific ARARs associated with on-site waste generation, waste characterization, waste piles and excavation would be addressed as part of the work plan for Alternatives 3, 4, and 5 to ensure compliance with ARARs.

2.10.3 Long-Term Effectiveness and Permanence

- In implementing Alternative 5, long-term human health risks would be eliminated by the extensive excavation of contaminated soil for disposal.
- Alternatives 2, 3, and 4 are not as effective or permanent long term because risks associated with current and future land uses are mitigated to a lesser extent depending on the quantity of soil removed.

- In implementing Alternatives 2, 3, and 4, ECs and ICs would limit exposure to contaminated soil beneath the asphalt and concrete.

- Alternative 1 would not provide long-term effectiveness and permanence because no action is taken.

2.10.4 Reduction of Toxicity, Mobility, and Volume through Treatment

Alternatives 1 and 2 do not involve active treatment of potential contamination or reduce its toxicity, mobility, or volume. The COCs identified for this site (lead, dioxin, and B(a)P) are known to persist in soils and are not expected to degrade quickly in the surficial soils.

Alternatives 3, 4, and 5 would identify and remove contaminated soil from Site 31, and therefore, reduce the toxicity and volume of contaminated soil at the site. Placing the soil in an approved landfill would reduce the mobility of contaminants in the environment.

2.10.5 Short-Term Effectiveness

No active remedial action is involved under Alternatives 1 and 2, so no new health risks are posed to the community, current occupants, workers, or the environment in the short term. The risk under present and planned site use is within the risk management range; therefore Alternatives 1 and 2 are considered highly effective in the short term.

Alternatives 3, 4, and 5 would introduce risk to the community from dust and truck traffic during field activities; however, these risks could be mitigated through best management practices such as truck route planning and dust control measures. Although the risk assessment indicates the risk to the construction worker is below the risk management range, any construction or demolition poses some risks for workers. These construction-related risks can be mitigated through best management safety practices.

2.10.6 Implementability

All of the alternatives are technically feasible and are considered equally implementable.

- Alternative 1 does not require any action.

- Alternatives 2, 3, 4, and 5 are proven technologies, and it is unlikely that technical or administrative problems would delay implementation of these alternatives.

- The materials and services necessary to implement Alternatives 2, 3, 4, and 5 are readily available locally.

2.10.7 Cost

Costs estimates for the alternatives are as follows:

- Alternative 5: $2,308,000
- Alternative 4: $1,950,000
- Alternative 3: $1,331,000
- Alternative 2: $788,000
- There are no costs associated with Alternative 1

The cost estimates include capital construction costs for soil removal and long-term O&M costs for ECs and ICs covering a 30-year period for Alternatives 2, 3 and 4. The above estimates represent present value costs.

2.10.8 Community Acceptance and Regulatory Approval

Community acceptance and regulatory approval were solicited during the PP/Draft RAP process for the selected alternative. Community and State acceptance of the Navy's preferred alternative was addressed through meetings and formal response to comments, as summarized in Sections 2.3 and 3.0.

2.11 PRINCIPAL THREAT WASTE

Principal threat wastes are those source materials considered to be highly toxic or highly mobile that cannot be reliably contained or that would present a significant risk to human health and the environment should exposure occur (EPA 1999). Principal threat wastes can include liquid source material, mobile source material, or highly toxic source material. Non-principal threat wastes are the source materials that generally can be reliably contained and would present only a low risk in the event of exposure.

Contaminated soil at Site 31 is not considered a principal threat waste because it does not contain high concentrations of mobile chemicals and the results of the HHRA indicate manageable risk. Low-toxicity source materials are defined as contaminated soils that "present an excess cancer risk near the acceptable risk range were exposure to occur" (EPA 1991). Therefore, the selected remedy, soil removal and disposal at a licensed facility will meet the NCP's expectation "to use ECs such as containment for waste that poses a relatively low long-term threat" (40 CFR 300.430(a)(1)(iii)(B).

2.12 SELECTED REMEDY

The rationale for the selected remedy, remedy description, estimated costs, and expected outcomes are described in detail below.

2.12.1 Rationale for the Selected Remedy

The Navy's selected remedy is Alternative 5, complete removal and off-site disposal of contaminated soil from Debris Areas A, B, C, D, and E. Alternative 5 would prevent exposure to contaminated soils at the site and would allow unrestricted use. Alternatives 1, 2, 3, and 4 were rejected because they would provide a lower degree of protection to potential human and ecological receptors at the site.

2.12.2 Description of the Selected Remedy

Alternative 5 involves complete excavation of Debris Areas A, B, C, D, and E to a depth of 6 feet bgs. An excavation depth of 6 feet bgs was conservatively selected to allow for over-excavation in areas of known contamination and assumes all contaminated soil would be removed. It is assumed that following the completion of this alternative, the RAOs will have been achieved without the need for ICs. The excavation depth of 6 feet bgs was chosen based on analytical results that indicate dioxin exceedances of the NAVSTA TI dioxin ambient level of 12.0 ng/kg extend to a maximum depth of 5 feet bgs. The actual excavation depth may vary depending on site conditions and analytical results from confirmation samples collected following excavation. A temporary security fence would be installed around the site to prevent unauthorized access during remedial activities. Based on an excavation depth of 6 feet bgs, a total of approximately 21,900 square feet of soil beneath the entire Debris Areas A, B, C, D, and E and an estimated 6,080 cubic yards of contaminated soil (accounting for a 25 percent bulking factor once the soil is excavated) would be excavated and transported as hazardous waste to a permitted landfill for disposal. Additionally, an estimated 930 cubic yards of asphalt and concrete hardscape (demolition debris) from all debris sites would require disposal as nonhazardous waste at a permitted landfill. The excavation would be backfilled with clean material and returned to approximately the existing grade. Replacement of the street and the parking lot are included in the cost estimate for this alternative. However, replacement of the hardsurfaces would be a management decision during preparation of the RAWP.

Soils with COCs in each debris area would be removed to a depth of approximately 6 feet bgs, and adequate removal of COCs would be verified by collecting soil samples for analysis of COCs. When data for confirmation soil samples demonstrate the remediation goals defined in Section 2.9 have been achieved, the excavations would be backfilled with clean soil, properly compacted in appropriate engineered lifts, returned to grade, and repaved similar to current conditions, including restoration of the asphalt area of the schoolyard and the sidewalks and street along 11th Street, as appropriate. A description of each debris area follows.

Excavation (Debris Area A)

Debris Area A is a crescent-shaped area just north of 11th Street within the schoolyard (see Figure 2). The asphalt area within Debris Area A would be demolished to excavate elevated concentrations of lead in soil to a depth of 6 feet. The area was delineated based on previous sampling results and is estimated to be 400 square feet in size. Based on this area, the estimated volume of soils that would be excavated within Debris Area A is 111 cubic yards (accounting for a 25 percent bulking factor once it is excavated). Approximately 5 cubic yards of demolished hardscape would be segregated from excavated soils and disposed of as nonhazardous waste.

Excavation (Debris Area B)

Excavation of Debris Area B involves demolition of a crescent-shaped area of asphalt just north of 11th Street within the schoolyard (see Figure 2) to excavate elevated concentrations of lead in soil to a depth of 6 feet bgs. The area was delineated based on previous sampling results and is estimated to be 400 square feet in size. Based on this area, the estimated volume of soils that would be excavated within Debris Area B is 111 cubic yards (accounting for a 25 percent bulking factor once it is excavated). Approximately 5 cubic yards of demolished hardscape would be segregated from excavated soils and disposed of as nonhazardous waste.

Excavation (Debris Area C)

Excavation of Debris Area C involves demolition of asphalt within the existing schoolyard in Debris Area C to excavate elevated concentrations of COCs in soil to a depth of 6 feet. The area was delineated based on previous sampling results and is estimated to be 11,500 square feet in size. Based on this area, the estimated volume of soils that would be excavated within Debris Area C is 3,195 cubic yards (accounting for a 25 percent bulking factor once it is excavated). Approximately 490 cubic yards of demolished hardscape would be segregated from excavated soils and disposed of as nonhazardous waste.

Excavation (Debris Area D)

Excavation of Debris Area D would involve demolition of both asphalt and concrete associated with the parking lot and extending into the street at the intersection of 11th Street and Avenue D. The area was delineated based on previous sampling results and is estimated to be 3,000 square feet. Based on this area, the estimated volume of soils that would be excavated within Debris Area D is 833 cubic yards (accounting for a 25 percent bulking factor once it is excavated). Approximately 127 cubic yards of demolished hardscape would be segregated from excavated soils and disposed of as nonhazardous waste.

Excavation (Debris Area E)

Excavation of Debris Area E involves demolition of 11th Street and the adjacent sidewalks within Debris Area E to excavate soil contaminated with lead beneath the street to a depth of 6 feet bgs. It is anticipated traffic would be temporarily rerouted during demolition of 11th Street and subsequent excavation. The area was delineated based on previous sampling results and is estimated to be 6,600 square feet (SulTech 2007a). Based on this area, the estimated volume of soils that would be excavated within Debris Area E is 1,833 cubic yards (accounting for a 25 percent bulking factor once it is excavated). Approximately 300 cubic yards of demolished hardscape would be segregated from excavated soils and disposed of as nonhazardous waste.

Off-site Disposal

Asphalt and concrete generated during excavation activities at the debris areas would be segregated from the targeted contaminated soils. Stockpiled soils would be properly characterized during excavation and transported by an approved waste hauler for proper disposal at a permitted landfill. Asphalt and concrete would be transported by licensed transporters to a nonhazardous debris landfill.

2.12.3 Summary of Estimated Remedy Costs

The estimated present-worth cost for the selected remedy is $2,308,000. The costs include excavation and disposal of the soil and surface restoration including replacement of the hard surfaces. This estimate includes capital costs only, as no O&M costs are anticipated after removal and disposal of the soil. Table 3 contains a breakdown of the cost estimate for the selected remedy. The information in Table 3 is based on the best available information regarding the anticipated scope of the selected remedy. Changes in the cost elements are likely to occur as a result of new information and data collected during the engineering design phase of the selected remedy. Major changes may be documented in the form of a memorandum in the Administrative Record file, an explanation of significant differences (ESD), or a ROD amendment. This is an order-of-magnitude engineering cost estimate that is expected to be within +50 to -30 percent of the actual project cost.

2.12.4 Expected Outcomes of the Selected Remedy

The removal of Debris Areas A, B, C, D, and E is intended to eliminate contact with contaminated soil by site receptors and thus achieve unrestricted use of Site 31.

2.13 STATUTORY DETERMINATIONS

The primary responsibility under Superfund is to select remedial actions that are protective of human health and the environment. CERCLA also requires that the selected remedial action comply with ARARs established under Federal and State environmental laws. The selected remedy must also be cost-effective and utilize permanent treatment technologies or resource recovery technologies to the maximum extent practicable. The statue also contains a preference for remedies that include treatment as a principal element.

The following statutory determinations are provided to describe how the selected remedy satisfies the statutory requirements of CERCLA, § 121 [as required by NCP, § 300.430(f)(5)(ii)].

Protection of Human Health and the Environment

The selected remedy will protect human health under current or altered site conditions for all potential receptors by removing soils contaminated with B(a)P, dioxins, and lead from Debris Areas A, B, C, D, and E and disposal in a permitted landfill. The removal of contaminated soil from all debris areas would reduce potential risk below the risk management range for human health at Site 31. The chemicals in soil do not pose an unacceptable risk to ecological receptors.

Compliance with ARARs

No potential chemical-specific ARARs for soil that present a numerical cleanup goal were identified. Because there are no chemical-specific ARARs for soil other than the waste characterization requirements, remediation goals for Site 31 are based on ambient levels, EPA Region IX PRGs, and remediation goals.

No potential location-specific ARARs were identified for Site 31. The selected remedy will comply with action-specific ARARs, such as requirements for excavation, characterization of waste, and temporary staging of stockpiles.

The soil will be characterized in accordance with State and Federal ARARs prior to disposal in a landfill. If, as a result of this characterization, the Navy determines that the waste generated from the remedial action is hazardous, they will comply with all legally applicable Resource Conservation and Recovery Act (RCRA) requirements for off-site disposal. The Navy will also comply with relevant and appropriate sections of the Federal Hazardous Materials Transportation Law, which have been identified in Appendix B of the FS (SulTech 2007a).

Cost-Effectiveness

The estimated total capital cost for Alternative 5 is $2,308,000; the basis for this cost estimate is summarized in Table 3. No long-term O&M costs are required or incurred because the alternative is comprehensive and permanent. Therefore, the present value is equal to the capital costs for the alternative. The Navy has concluded that these costs are appropriate and that the selected remedy is a cost-effective approach for minimizing potential future risks.

Use of Permanent Solutions or Innovative Treatment Technologies to the Maximum Extent Practicable

The selected alternative provides a permanent solution in terms of on-site receptors because risk is eliminated when contaminated soil is removed from the property. Five-year reviews are not necessary for the selected alternative because contaminants in soil posing a risk to human health would not remain on site.

Preference for Treatment as a Principal Element

The selected remedy does not involve treatment of contaminants in soil, so it does not satisfy the statutory preference for treatment. However, the treatment options may be only marginally effective because of site-specific conditions and may produce more toxic byproducts than the selected remedy.

Summary of Five-Year Review Requirements for the Selected Remedy

No five-year reviews will be required, as all contaminated soil will be removed from the site.

2.14 DOCUMENTATION OF SIGNIFICANT CHANGES

The PP/Draft RAP for Site 31, Former South Storage Yard, was released for public comment on September 23, 2008. The PP/Draft RAP identified the selected remedial alternative for Site 31. The public comment period ran from September 23, 2008, through October 23, 2008. No public comments were received. Therefore, it was determined that no significant changes to the selected alternative, as originally identified in the PP/Draft RAP, were necessary or appropriate.

3.0 RESPONSIVENESS SUMMARY

This section presents the Navy's responses to comments on the PP/Draft RAP for Site 31, Former South Storage Yard, NAVSTA TI.

3.1 STAKEHOLDER ISSUES AND NAVY RESPONSES

In preparing this responsiveness summary, the Navy followed "A Guide to Preparing Superfund Proposal Plans, Records of Decisions, and Other Remedy Selection Documents" (EPA OSWER Directive 9200.1-23P, July 1999). The responsiveness summary summarizes the views of the public and support agencies and documents in the record how public comments were integrated into the remedial decision. The guidance (EPA 1999) suggests that the responsiveness summary be organized into two sections:

1. Stakeholder Issues and Lead Agency Responses: Summarize and respond concisely to major issues raised by stakeholders (for example, community groups, support agencies, businesses, municipalities, and potentially responsible parties), and

2. Technical and Legal Issues, if necessary.

The PP/Draft RAP for Site 31 was made available to the public on September 23, 2008, thereby initiating the 30-day public comment period. The public meeting for the PP/Draft RAP for Site 31 was held on October 7, 2008, in the Casa de la Vista, Building 271, at Treasure Island, San Francisco, California. The public comment period ran from September 23, 2008 through October 23, 2008. Copies of the newspaper notice that announced the public comment period and the location and time of the public meeting are included in Appendix C.

The PP/Draft RAP presented the selected alternative for Site 31 (BAI 2008). Federal and State regulatory agencies concur with the selected alternative. The purpose of the PP/Draft RAP and the public meeting was to provide the public with a concise summary of the site investigation and information used to support the Navy's preferred alternative. A transcript of the public meeting and an attendance roster are also included in Appendix C.

Based on the comments received from support agencies during the public comment period, there are no outstanding technical or legal issues for this ROD/RAP. Therefore, only the Stakeholder Issues and Lead Agency Responses section is included in this responsiveness summary. The guidance recommends that "If the lead agency determines that a point-by-point response to a set of comments is warranted, a separate comment/response document should be prepared." The Navy has concluded that a separate point-by-point response document is not warranted and has responded in this responsiveness summary to all comments submitted.

No verbal comments were received during the public meeting on the PP/Draft RAP for Site 31. No written comments were received during the public comment period. A copy of the transcript for the public meeting is provided as Appendix C of this ROD/RAP.

The California Department of Fish and Game submitted comments on the PP on October 30, 2008. The comments were received after publication of the PP. These comments and the Navy's responses are located in Appendix D. Appendix E contains comments received from the DTSC and Water Board on the Draft ROD/RAP, along with the Navy's response to those comments.

3.2 TECHNICAL AND LEGAL ISSUES

No technical or legal issues were identified during the public comment period.

3.3 CALIFORNIA ENVIRONMENTAL QUALITY ACT

DTSC prepared an Initial Study to evaluate potential impact of the proposed project on the environment. The findings of the Initial Study indicate that the project would not have a significant effect on public health or the environment. Therefore, DTSC prepared a proposed Negative Declaration for the Site 31 cleanup. Both the Initial Study and proposed Negative Declaration were made available for review and comment during the public comment period. No comments were received during the comment period.

3.4 NONBINDING ALLOCATION OF RESPONSIBILITY

HSC § 25356.1(e) requires DTSC to prepare a preliminary nonbinding allocation of responsibility (NBAR) among all identifiable potentially responsible parties. HSC § 25356.3(a) allows potentially responsible parties with an aggregate allocation in excess of 50 percent to convene an arbitration proceeding by submitting to binding arbitration before an arbitration panel. Based on available information regarding the former NAVSTA TI, DTSC determined that the Navy is a responsible party with aggregate alleged liability in excess of 50 percent of the costs of removal and remedial action pursuant to HSC § 25356.3.

The sole purpose of the NBAR is to establish which PRPs will have an aggregate allocation in excess of 50% and can therefore convene arbitration if they so choose. The NBAR, which is based on the evidence available to the DTSC, is not binding on anyone, including PRPs, DTSC, or the arbitration panel. If a panel is convened, its proceedings are de novo and do not constitute a review of the provisional allocation. The arbitration panel's allocation will be based on the panel's application of the criteria spelled out in Health and Safety Code § 25356.3(c) to the evidence produced at the arbitration hearing. Once arbitration is convened, or waived, the NBAR has no further effect, in arbitration, litigation or any other proceeding, except that both the NBAR and the arbitration panel's allocation are admissible in a court of law, pursuant to HSC § 25356.7 for the sole purpose of showing the good faith of the parties who have discharged the arbitration panel's decision.

DTSC sets forth the following preliminary NBAR for the former NAVSTA TI: The U.S. Department of the Navy is allocated 100% responsibility.

4.0 REFERENCES

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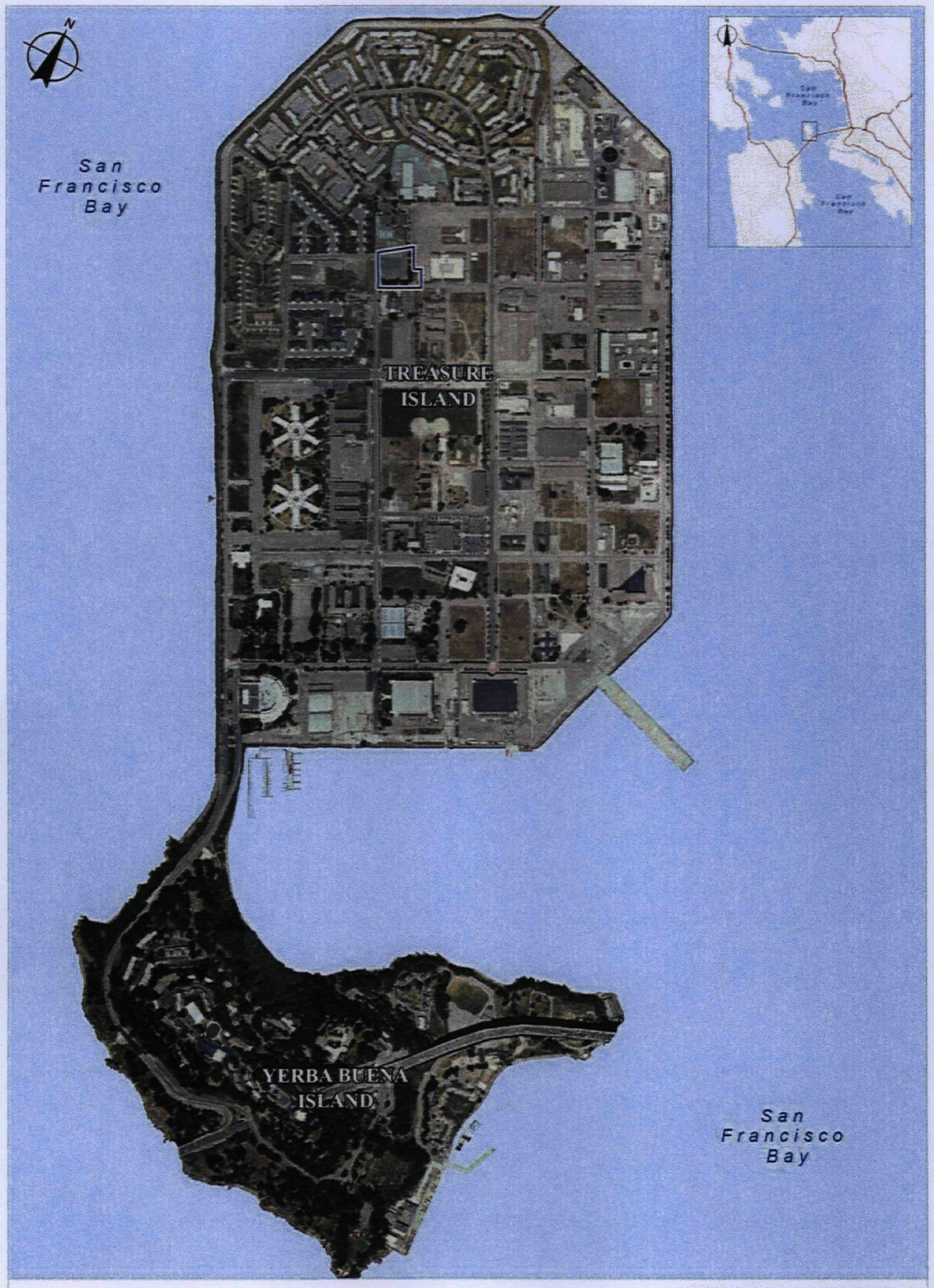
FIGURES



Barajas & Associates, Inc.

IR SITE 31 BOUNDARY

350 0 350 700
Feet

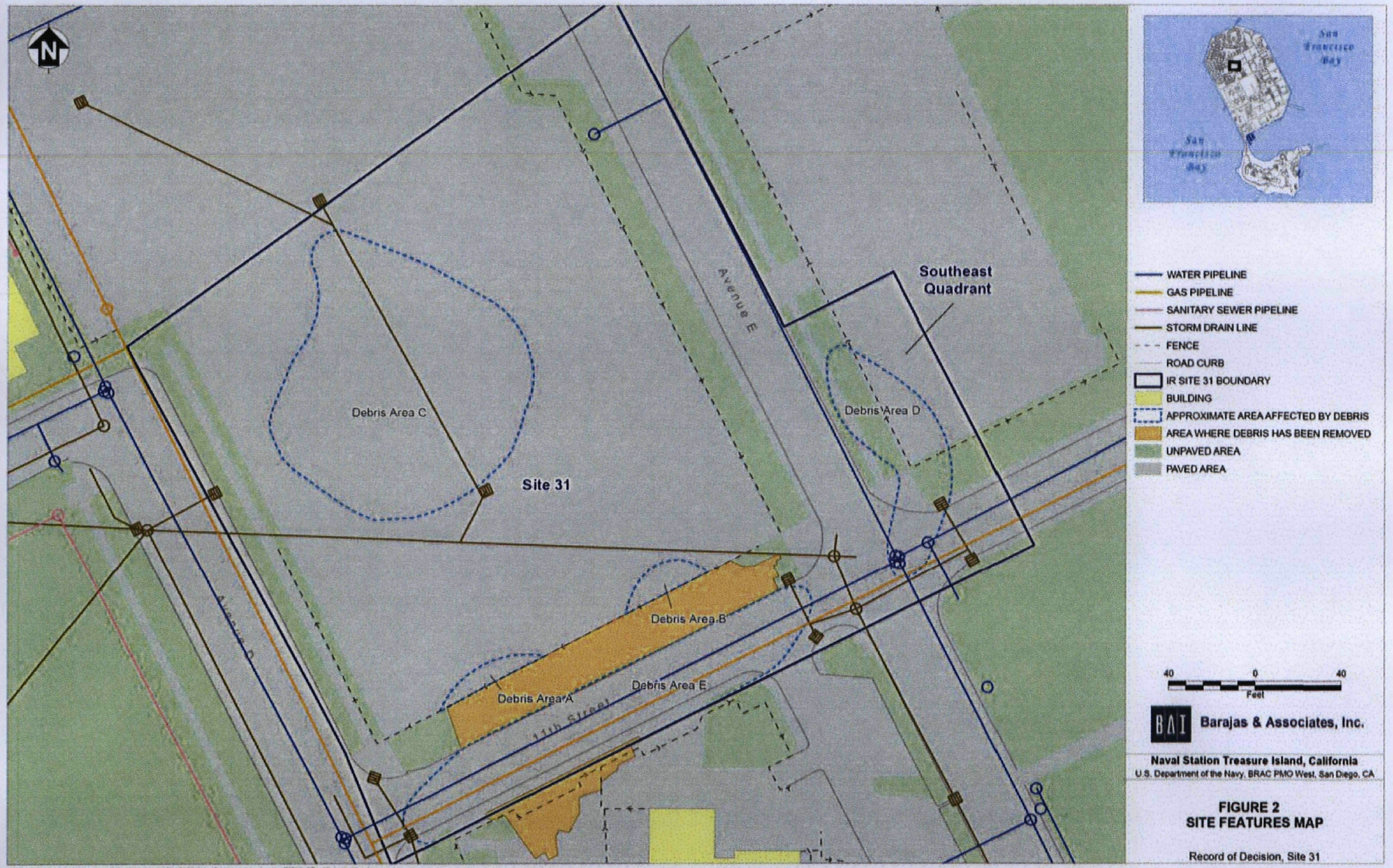
Note:
Aerial photograph taken by HJW Geospatial Inc. on February 18, 2003; photograph georeferenced by Tetra Tech.

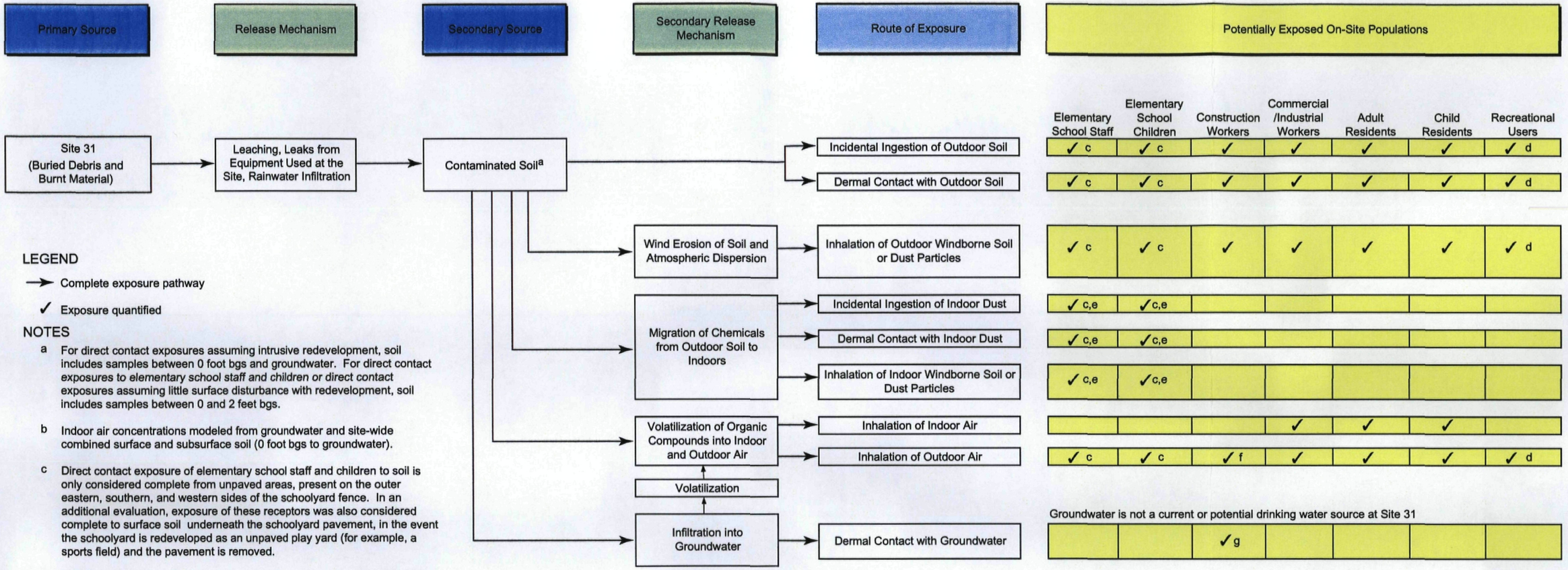
Naval Station Treasure Island
Department of the Navy, BRAC PMO West, San Diego, California

FIGURE 1

SITE LOCATION MAP

Record of Decision
Site 31, Former South Storage Yard


N
Debris Area C
Site 31
Avenue E
Southeast Quadrant
Debris Area D
Debris Area B
Debris Area A
Debris Area E
11th Street
Avenue D
San Francisco Bay
San Francisco Bay
WATER PIPELINE
GAS PIPELINE
SANITARY SEWER PIPELINE
STORM DRAIN LINE
FENCE
ROAD CURB
IR SITE 31 BOUNDARY
BUILDING
APPROXIMATE AREA AFFECTED BY DEBRIS
AREA WHERE DEBRIS HAS BEEN REMOVED
UNPAVED AREA
PAVED AREA
40
0
40
Feet
BAI
Barajas & Associates, Inc.
Naval Station Treasure Island, California
U.S. Department of the Navy, BRAC PMO West, San Diego, CA
FIGURE 2
SITE FEATURES MAP
Record of Decision, Site 31
2006-05-15 V:\Treasure Island\Projects\Site31\RI_2005\Site_Features_Map.mxd TtEMI-SF Michelle Angeles



LEGEND

→ Complete exposure pathway

✓ Exposure quantified

NOTES

a For direct contact exposures assuming intrusive redevelopment, soil includes samples between 0 foot bgs and groundwater. For direct contact exposures to elementary school staff and children or direct contact exposures assuming little surface disturbance with redevelopment, soil includes samples between 0 and 2 feet bgs.

b Indoor air concentrations modeled from groundwater and site-wide combined surface and subsurface soil (0 foot bgs to groundwater).

c Direct contact exposure of elementary school staff and children to soil is only considered complete from unpaved areas, present on the outer eastern, southern, and western sides of the schoolyard fence. In an additional evaluation, exposure of these receptors was also considered complete to surface soil underneath the schoolyard pavement, in the event the schoolyard is redeveloped as an unpaved play yard (for example, a sports field) and the pavement is removed.

d Exposure of recreational users was limited to soil in the southeast quadrant (Attachment I6).

e Indoor soil exposures for elementary school staff and children are quantified for on-site soil migrating into adjacent, off-site school buildings following OEHHA school site exposure guidance (OEHHA 2004).

f For construction workers, inhalation of volatiles in outdoor air from groundwater was evaluated using methods recommended by the VDEQ (2004) that take account for reduced air mixing and dispersion of contaminants while working in a construction/utility trench. Inhalation of volatiles in outdoor air from soil was evaluated using the chemical-specific volatilization factors derived by EPA Region IX in its memorandum on derivation of PRGs (2004e).

g Considering the shallow water table at Site 31, dermal contact with groundwater for construction workers involved in excavation activities is considered complete.

bgs below ground surface

EPA U.S. Environmental Protection Agency

OEHHA Office of Environmental Health Hazard Assessment

PRG Preliminary Remediation Goal

VDEQ Virginia Department of Environmental Quality

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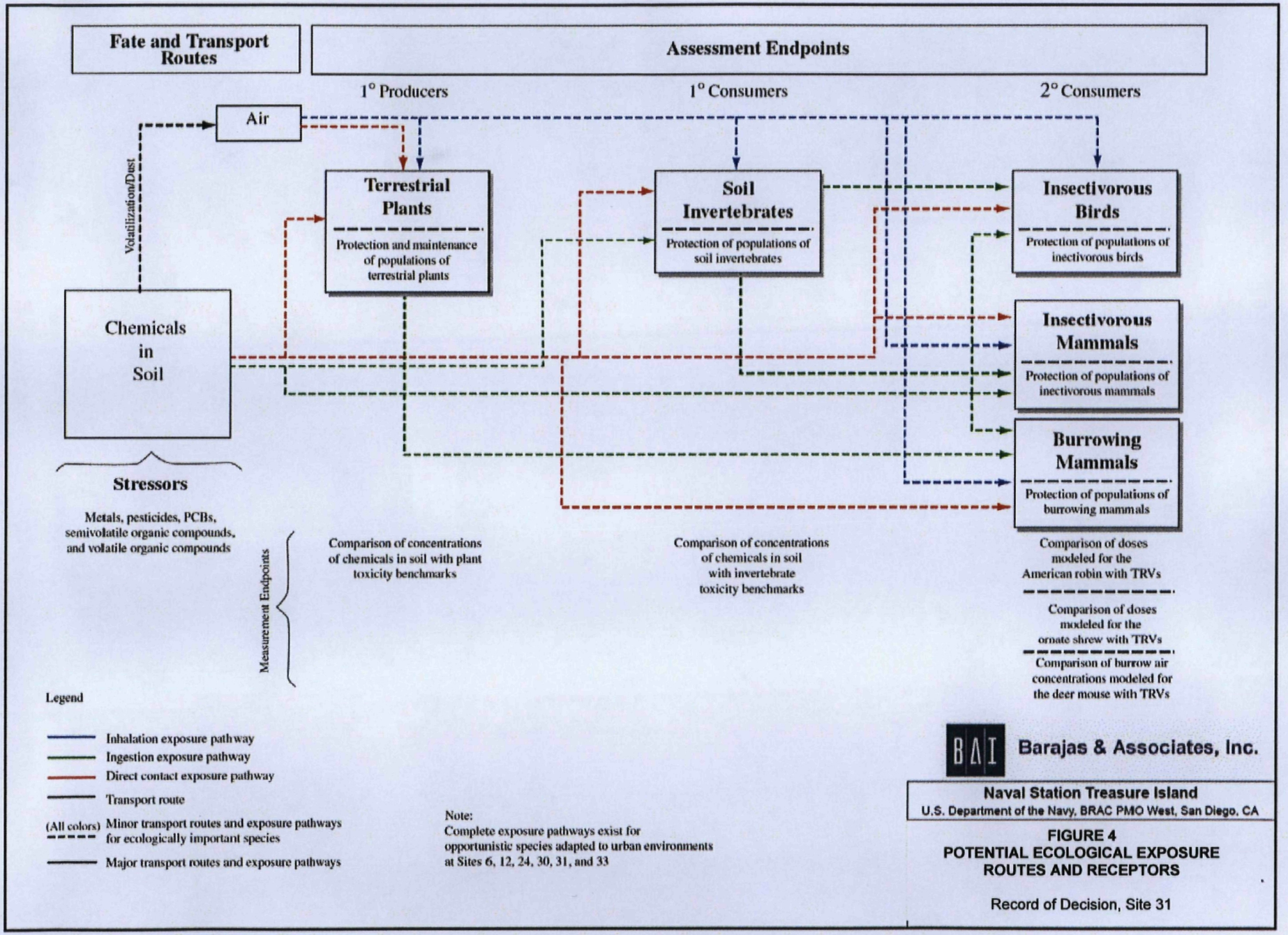
Barajas & Associates, Inc.

Naval Station Treasure Island
U.S. Department of the Navy, BRAC PMO West, San Diego, CA

FIGURE 3
POTENTIAL EXPOSURE ROUTES AND RECEPTORS
Record of Decsion, Site 31


Fate and Transport Routes
Assessment Endpoints
1° Producers
1° Consumers
2° Consumers
Air
Volatilization/Dust
Terrestrial Plants
Protection and maintenance of populations of terrestrial plants
Soil Invertebrates
Protection of populations of soil invertebrates
Insectivorous Birds
Protection of populations of inectivorous birds
Insectivorous Mammals
Protection of populations of inectivorous mammals
Burrowing Mammals
Protection of populations of burrowing mammals
Chemicals in Soil
Stressors
Metals, pesticides, PCBs, semivolatile organic compounds, and volatile organic compounds
Measurement Endpoints
Comparison of concentrations of chemicals in soil with plant toxicity benchmarks
Comparison of concentrations of chemicals in soil with invertebrate toxicity benchmarks
Comparison of doses modeled for the American robin with TRVs
Comparison of doses modeled for the ornate shrew with TRVs
Comparison of burrow air concentrations modeled for the deer mouse with TRVs
Legend
Inhalation exposure pathway
Ingestion exposure pathway
Direct contact exposure pathway
Transport route
(All colors) Minor transport routes and exposure pathways for ecologically important species
Major transport routes and exposure pathways
Note:
Complete exposure pathways exist for opportunistic species adapted to urban environments at Sites 6, 12, 24, 30, 31, and 33
BAI
Barajas & Associates, Inc.
Naval Station Treasure Island
U.S. Department of the Navy, BRAC PMO West, San Diego, CA
FIGURE 4
POTENTIAL ECOLOGICAL EXPOSURE ROUTES AND RECEPTORS
Record of Decision, Site 31

TABLES

TABLE 1: HUMAN HEALTH RISK SUMMARY

Site 31 ROD, NAVSTA TI, San Francisco, California

Receptor	RME Cancer Risk Estimates		RME Noncancer HI Estimates	
	Method 1	Method 2	Method 1	Method 2
Current Land Use				
Current Site Conditions				
Elementary School Child – Exposure to Soil (0 to 2 feet bgs, Unpaved Areas Outside Fence Line)[1]	1×10^{-6}	2×10^{-6}	0.05	0.3
Elementary School Staff – Exposure to Soil (0 to 2 feet bgs, Unpaved Areas Outside Fence Line)[1]	2×10^{-6}	5×10^{-6}	0.04	0.2
Altered Site Conditions				
Elementary School Child – Exposure to Soil (0 to 2 feet bgs, Inside Schoolyard Fence Line)[1,2]	1×10^{-5}	2×10^{-5}	0.2	0.2
Elementary School Staff – Exposure to Soil[1] (0-2 feet bgs, Inside Schoolyard Fence Line)[1,2]	2×10^{-5}	4×10^{-5}	0.1	0.2
Alternative Land Use				
Construction Worker – Exposure to Soil (0 foot bgs to groundwater, Sitewide)[3], Groundwater, and Vapors in Trench Air[4]	3×10^{-6}	5×10^{-6}	0.6	0.8
Resident – Exposure to Soil (0 to 2 feet bgs, Sitewide)[3] and Vapors in Indoor Air[5]	7×10^{-5}	3×10^{-3}	24	25
Resident – Exposure to Soil (0 foot bgs to groundwater, Sitewide)[3] and Vapors in Indoor Air[5]	6×10^{-5}	3×10^{-3}	24	25
Commercial/Industrial Worker – Exposure to Soil (0 to 2 feet bgs, Sitewide)[3] and Vapors in Indoor Air[5]	3×10^{-5}	4×10^{-4}	2	2
Commercial/Industrial Worker – Exposure to Soil (0 foot bgs to groundwater, Sitewide)[3] and Vapors in Indoor Air[5]	2×10^{-5}	4×10^{-4}	2	2

Notes:

1 Exposure to soil via incidental ingestion, dermal contact, and inhalation pathways presented in Section I.8.2 of Appendix I of the Site 31 RI Report (SulTech 2006).

2 Soil assumed to be unpaved for this assessment.

3 Exposure to soil via incidental ingestion, dermal contact, and inhalation of particulates or vapors in outdoor air.

4 In-trench air concentrations modeled from groundwater.

5 Indoor air concentrations modeled from groundwater and sitewide combined surface and subsurface soil (0 foot bgs to groundwater).

bgs below ground surface

TABLE 2: COMPARATIVE ANALYSIS OF ALTERNATIVES

Site 31 ROD, NAVSTA TI, San Francisco, California

Effectivess Criteria		Alternative 1: No Action	Alternative 2: ECs Combined with ICs	Alternative 3: ECs, ICs, and Excavation (Debris Area E) and off-Site Disposal of Soil	Alternative 4: ECs, ICs, and Excavation (Debris Areas C and D) and off-Site Disposal of Soil	Alternative 5: ECs, ICs, and Excavation (Debris Areas A, B, C, D and E) and off-Site Disposal of Soil
Threshold Criteria[a]						
1.	Overall Protection of Human Health and the Environment	Threshold not achieved: No protection to human health and the environment would be provided.	Threshold achieved: Protection to human health and the environment would be provided.	Threshold achieved: Protection to human health and the environment would be provided.	Threshold achieved: Protection to human health and the environment would be provided.	Threshold achieved: Protection to human health and the environment would be provided.
2.	Compliance with ARARs	Not applicable.	Threshold achieved: Meets ARARS.	Threshold achieved: Meets ARARS.	Threshold achieved: Meets ARARS.	Threshold achieved: Meets ARARS.
Primary Balancing Criteria[b]						
3.	Long-Term Effectiveness and Permanence	Not effective and permanent because it does not address altered or unaltered site uses.	Moderately effective in the long term by preventing exposure to soil beneath the asphalt and concrete hardscapes.	Moderately effective in the long term by both removal of some source material and use of ECs and ICs to prevent exposure to soil beneath the asphalt and concrete hardscape.	Moderately effective in the long term by both removal of some source material and use of ECs and ICs to prevent exposure to soil beneath the asphalt and concrete hardscape.	Highly effective and permanent in the long term by eliminating the source by excavation and off-site disposal.
4.	Reduction in Toxicity, Mobility, or Volume through Treatment	Would not reduce toxicity, mobility, or volume through treatment.	Would no reduce the toxicity, mobility, and volume through treatment, but would reduce or eliminate the exposure risk pathways.	Would no reduce the toxicity, mobility, and volume through treatment, but would reduce the volume of contamination at IR Site 31 by transporting the contaminated soil to a permitted landfill.	Would no reduce the toxicity, mobility, and volume through treatment, but would reduce the volume of contamination at IR Site 31 by transporting the contaminated soil to a permitted landfill.	Would no reduce the toxicity, mobility, and volume through treatment, but would reduce the volume of contamination at IR Site 31 by transporting the contaminated soil to a permitted landfill.

TABLE 2: COMPARATIVE ANALYSIS OF ALTERNATIVES

Site 31 ROD, NAVSTA TI, San Francisco, California

Effectivess Criteria		Alternative 1: No Action	Alternative 2: ECs Combined with ICs	Alternative 3: ECs, ICs, and Excavation (Debris Area E) and off-Site Disposal of Soil	Alternative 4: ECs, ICs, and Excavation (Debris Areas C and D) and off-Site Disposal of Soil	Alternative 5: ECs, ICs, and Excavation (Debris Areas A, B, C, D and E) and off-Site Disposal of Soil
5.	Short-Term Effectiveness	No short-term risk because no active remediation activities are proposed.	No short-term risk because no active remediation activities are proposed. Quickly achieves RAOs.	Imposes slight short-term risks during the pavement demolition and excavation. Takes 16 months to achieve final RAOs.	Imposes modest short-term risks during pavement demolition and excavation. Takes 17 months to achieve final ROAs.	Imposes moderate short-term risks during the pavement demolition and excavation. Takes 18 months to achieve final RAOs.
6.	Technical Implementability	Readily implementable.	Readily implementable.	Readily implementable.	Readily implementable.	Readily implementable.
7.	Cost	$0	$78,000	$1,331,000	$1,950,000	$2,308,000

Notes:

a The first two criteria are threshold criteria. The selected remedial alternative must meet the threshold criteria.

b These criteria are primary balancing criteria used to evaluate the alternative.

Criteria 8 and 9, Community and Regulatory Acceptance, are modifying criteria that evaluate issues or concerns the state or public may have regarding each of the alternatives.

ARAR applicable or relevant and appropriate requirement
EC engineering control
IC institutional control
IR installation restoration
RAO remedial action objective

TABLE 3: COST ESTIMATE SUMMARY FOR THE SELECTED ALTERNATIVE

Site 31 ROD, NAVSTA TI, San Francisco, California

Description	Costs
Capital Costs	
Work Plans and Reports	$159,595
Demolition and Disposal of Concrete & Pavement	$158,937
Demolition, Disposal, and Replacement of Underground Utilities (Debris Area E)	$15,915
Demolition, Disposal, and Replacement of Underground Utilities (Debris Area C)	$17,668
Excavation of Contaminated Soils	$111,554
Load and Haul of Contaminated Soils	$1,236,943
Monitoring of Surface Soils	$15,199
Monitoring of Subsurface Soils	$84,176
General Monitoring	$58,398
Site Restoration	$107,782
Resurfacing Roadways/Parking Lots – Debris Areas C and D	$14,372
Resurfacing and Refurbishing of 11th Street	$35,731
Replacement of Sidewalks, Curbs, and Gutter	$19,520
Site Close-Out Documentation	$77,559
Restoration Advisory Board	$13,230
Professional Labor Management	$181,397
Total Capital Costs in 2006 Dollars	$2,307,976

Source:
SulTech. 2007a "Feasibility Study Report for Installation Restoration Site 31, Former South Storage Yard, Naval Station Treasure Island, San Francisco, California." Prepared for the Department of the Navy, BRAC PMO West. February.

APPENDIX A

Statement of Reasons

STATEMENT OF REASONS

NAVAL STATION TREASURE ISLAND
SITE 31, FORMER SOUTH STORAGE YARD
RECORD OF DECISION/REMEDIAL ACTION PLAN

Pursuant to California Health and Safety Code (HSC) Section 25356.1, the U.S. Department of the Navy has prepared this statement of reasons. This statement of reasons is part of the attached decision document for the Site 31, Former South Storage Yard, at Naval Station Treasure Island (NAVSTA TI).

The record of decision/remedial action plan (ROD/RAP) summarizes the environmental investigations and the potential risks to human health and the environment posed by Site 31. Because of the potential exposure to soil contamination, the ROD/RAP selects removal of contaminated soil from Debris Areas A, B, C, D, and E and offsite disposal as the final remedy for the site.

The attached ROD/RAP complies with the law as specified in California HSC Section 25356.1. Section 25356.1(e) requires that RAPs include a statement of reasons setting forth the basis for the removal and remedial actions selected. The statement of reasons "shall also include an evaluation of the consistency of the removal and remedial actions proposed by the plan with the federal regulations and factors specific in subdivision (d)." The remedial action is consistent with the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) and its implementing regulations, the National Oil and Hazardous Substances Pollution Contingency Plan (NCP). Subdivision (d) of HSC Section 25356.1 specifies six factors against which remedial alternatives in the ROD/RAP must be evaluated. The six factors are summarized as follows.

1. Health and Safety Risks - Section 25356.1(d)(1)

Estimated cancer risks for the elementary school child, elementary school staff, and construction worker were within the U.S. Environmental Protection Agency (EPA) risk management range (10^{-6} to 10^{-4}) for both altered (i.e., paving removed) and unaltered site conditions. Estimated cancer risks for the hypothetical child/adult resident and commercial/industrial worker were within the cancer risk management range under Method 1, but above the risk management range under Method 2. The estimated hazard indices (His) were less than the threshold of 1 for noncancer effects for all receptors except hypothetical residents and commercial/industrial workers. Site chemicals detected in groundwater did not contribute significantly to cumulative potential cancer risks or noncancer HIs.

LeadSpread modeling resulted in 99th percentile concentrations below 10 micrograms per deciliter (µg/dL) for the elementary school child and adult residents and for the child resident exposed to lead in surface soils. However, LeadSpread modeling resulted in 99th percentile concentrations above 10 µg/dL for child residents exposed to lead in combined surface and subsurface soils. Exposure point concentrations (EPCs) were also compared with the EPA Region IX Preliminary Remediation Goal (PRG) for industrial soil of 800 mg/kg (EPA 2004).

The lead EPCs in the three surface soil data sets, ranging from 149 mg/kg to 346 mg/kg, were well below the 800 mg/kg benchmark, but the lead EPC in site-wide combined surface and subsurface soil, 858 mg/kg, exceeded the benchmark.

A separate Tier 1 screening-level risk assessment protective of recreational visitors also was conducted to evaluate the potential redevelopment of the southeast quadrant of Site 31 into a recreational area (Navy 2001). Potential cancer risks of 1×10^{-5} and 4×10^{-5} were estimated for exposure to surface soil (0 to 2 feet bgs) and combined surface and subsurface soil (0 foot bgs to groundwater), respectively, in the southeast quadrant. HIs estimated for exposure to surface soil (0 to 2 feet bgs) and combined surface and subsurface soil (0 foot bgs to groundwater) were both equal to the threshold of 1. LeadSpread modeling using default exposure parameter values for residents as protective of recreational exposure resulted in 99th percentile concentrations above 10 µg/dL for child residents exposed to lead in combined surface and subsurface soils.

Finally, a separate indoor air vapor intrusion evaluation was conducted for receptors at the daycare center south of Site 31 (Site 31) to determine the potential for subsurface migration of volatile organic compounds detected at Site 31. The estimated Method 1 and Method 2 HIs for the daycare center receptors were less than 1. The Method 1 potential cancer risks estimated for both daycare center children and daycare center staff and the Method 2 potential cancer risks estimated for daycare center children were found to be below the EPA risk management range (10^{-6} to 10^{-4}). The Method 2 potential cancer risk estimated for the daycare center staff slightly exceeded 1×10^{-6}.

The chemicals of concern at Site 31 were identified as benzo(a)pyrene (B[a]P), dioxins, and lead.

2. Beneficial Uses of Site Resources - Section 25356.1(d)(2)

Site 31 is not currently used by the City and County of San Francisco. If used in the future, it would most likely be used as an elementary school play yard. No known mineral, cultural, or archeological resources exist at this site.

Currently, shallow groundwater at Site 31 (approximately 5 to 7 feet bgs) is not used as a source of drinking water, agricultural, or industrial supply. In a letter from the Water Board to the Navy, the Water Board provided its concurrence that groundwater at NAVSTA TI meets the exemption criteria in State Water Resources Control Board Sources of Drinking Water Resolution 88-63, but retains its designation for potential agricultural, process, and industrial supply (Water Board 2001).

3. Effect of the Remedial Actions on Groundwater Resources - Section 25356.1(d)(3)

Groundwater has not been impacted by releases of chemicals at Site 31. The shallow groundwater is not likely to be used due to poor quality. These actions will not impact shallow groundwater resources at the site. B(a)p, dioxins, and lead are not considered volatile and tend to adsorb strongly to soil particles. In general, these compounds are retained strongly by soil and are not expected to leach to groundwater or migrate off-site to the Bay.

4. Site-specific Characteristics - Section 25356.1(d)(4)

Site 31 consists of a several debris areas including a trash disposal area that was identified on a 1989 utility as-built drawing. A note on the as-built drawing for the water line project identified an "old trash dump" within the western portion of the water line excavation along 11th Street between Avenues D and E (Shaw 2003). Subsequently, a multi-phase investigation and removal action was conducted beginning in May 2002 to determine the nature and extent of the buried debris (Shaw 2003; 2004).

B(a)P, dioxin, and lead were identified as COCs for the site. Although the source for b(a)p, dioxin, and lead in the soil has not been identified, it is likely a result of debris in the debris areas. A time-critical removal action was conducted in 2003/2004 to remove debris and soil from the disposal area along 11th Street.

5. Cost Effectiveness of Alternative Remedial Action Measures - Section 25356.1(d)(5)

The selected alternative has the highest estimated cost of the alternative evaluated. However, the cost is offset by the fact that the site would be available for unrestricted use.

6. Potential Environmental Impacts of Remedial Actions - Section 25356.1(d)(6)

The selected remedial actions will not have significant potential environmental impacts. The remedy for Site 31, soil removal and disposal, may have short-term impact, however, the impacts would be mitigated by standard engineering practices such as dust control.

A state RAP must also include a "nonbinding preliminary allocation of responsibility among all identifiable potentially responsible parties at a particular site, including those parties which may have been released, or may otherwise be immune, from liability" (HSC Section 25356.1(e)). The Navy is responsible for the selected alternatives at Site 31.

APPENDIX B

Administrative Record Index

TREASURE ISLAND NAVSTA

DRAFT ENVIRONMENTAL RESTORATION RECORD INDEX - UPDATE (SORTED BY RECORD DATE/RECORD NUMBER)

DOCUMENTS RELATED TO SITE 31

UIC No. / Rec. No. Doc. Control No. Record Type Contr./Guid. No. Approx. # Pages	Prc. Date Record Date CTO No. EPA Cat. #	Author Affil. Author Recipient Affil. Recipient	Subject	Classification	Sites	Location SWDIV Box No(s) CD No.	FRC Accession No. FRC Warehouse FRC Box No(s)
N60028 / 001165 6511 & SWDIV SER 06CA.SA/1190 CORRESPONDENC N62474-98-D-2076 50	08-20-2003 **08-14-2003** 00089	SHAW ENVIRONMENTAL, INC. NAVFAC - SOUTHWEST DIVISION	FINAL SAMPLING AND ANALYSIS PLAN (SAP) ADDENDUM FOR THE EXCAVATION TRENCHING, DIRECT-PUSH DRILLING, AND SAMPLING (INCLUDES SWDIV TRANSMITTAL LETTER)	ADMIN RECORD INFO REPOSITORY	SITE 00031	FRC - PERRIS	181-03-0186 BOX 0006 41031802
N60028 / 001176 7136 & SWDIV SER 06CA.SA/0014 REPORT N62474-98-D-2076 100	01-15-2004 **01-06-2004** 00089	SHAW ENVIRONMENTAL, INC. BOURGEOIS, P. NAVFAC - SOUTHWEST DIVISION	DRAFT FIELD ACTIVITY REPORT FOR EXCAVATION TRENCHING, DIRECT PUSH DRILLING, AND SAMPLING FORMER SOUTH STORAGE YARD (INCLUDES CD COPY AND SWDIV TRANSMITTAL LETTER)	ADMIN RECORD INFO REPOSITORY	SITE 00031	NAVFAC SOUTHWEST - BLDG. 1	
N60028 / 001182 DS.B006.13036 & SWDIV SER 06CA.JS/0240 MINUTES N68711-03-D-5104 30	03-04-2004 **02-03-2004** 00006	SULTECH VARIOUS AGENCIES	03 FEBRUARY 2004 DRAFT REMEDIAL PROJECT MANAGERS AND BASE REALIGNMENT AND CLOSURE (BRAC) CLEANUP TEAM (BCT) [INCLUDES AGENDA, SIGN-IN SHEET, VARIOUS HANDOUTS, AND SWDIV TRANSMITTAL LETTER]	ADMIN RECORD INFO REPOSITORY	SITE 00009 SITE 00010 SITE 00012 SITE 00014 SITE 00024 SITE 00031	NAVFAC SOUTHWEST - BLDG. 1	
N60028 / 001180 7404.0 REPORT N62474-98-D-2076 40	02-25-2004 **02-17-2004** 00089	SHAW ENVIRONMENTAL, INC. BOURGEOIS, P. NAVFAC - SOUTHWEST DIVISION CROOK, M.	FINAL FIELD ACTIVITY REPORT EXCAVATION TRENCHING DIRECT PUSH DRILLING AND SAMPLING (FORMER SOUTH STORAGE YARD) [CD COPY ENCLOSED]	ADMIN RECORD INFO REPOSITORY	SITE 00031	NAVFAC SOUTHWEST - BLDG. 1	

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N60028 / 001209 DS.B006.13044 & SWDIV SER. 06CA.JS/0523 MINUTES N68711-03-D-5104 12	06-09-2004 **04-06-2004** 00006	SULTECH NAVFAC - SOUTHWEST DIVISION	DRAFT MINUTES FOR REMEDIAL PROJECT MANAGER BASE REALIGNMENT AND CLOSURE (BRAC) CLEANUP TEAM MONTHLY MEETING (INCLUDES SWDIV TRANSMITTAL LETTER)	ADMIN RECORD INFO REPOSITORY	BLDG 00502 SITE 00008 SITE 00013 SITE 00027 SITE 00030 SITE 00031	NAVFAC SOUTHWEST - BLDG. 1	
N60028 / 001196 DS.B021.13916 CORRESPONDENC N68711-03-D-5104 12	05-20-2004 **04-16-2004** 00021	SULTECH HOCH, K. NAVFAC - SOUTHWEST DIVISION	DRAFT ADDENDUM TO THE SAMPLING AND ANALYSIS PLAN (SAP) FACILITY WIDE GROUNDWATER MONITORING PROGRAM INSTALLATION RESTORATION (IR)	ADMIN RECORD INFO REPOSITORY	SITE 00030 SITE 00031	NAVFAC SOUTHWEST - BLDG. 1	
N60028 / 001207 DS.B021.13918 CORRESPONDENC N68711-03-D-5104 40	06-07-2004 **05-21-2004** 00021	SULTECH SWANSON, G. NAVFAC - SOUTHWEST DIVISION	FINAL ADDENDUM TO THE SAMPLING AND ANALYSIS PLAN (SAP) FACILITY WIDE GROUNDWATER MONITORING PROGRAM INSTALLATION RESTORATION (CD COPY ENCLOSED)	ADMIN RECORD INFO REPOSITORY	SITE 00030 SITE 00031	NAVFAC SOUTHWEST - BLDG. 1	
N60028 / 001234 DS.B006.13064 MINUTES N68711-03-D-5104 17	12-06-2004 **10-05-2004** 00006	SULTECH NAVFAC - SOUTHWEST DIVISION	02 SEPTEMBER 2004 DRAFT REMEDIAL PROJECT MANAGERS (RPM) AND BASE REALIGNMENT AND CLOSURE (BRAC) CLEANUP TEAM (BCT) MEETING MINUTES	ADMIN RECORD INFO REPOSITORY	BLDG 00233 BLDG 00343 BLDG 00344 SITE 00002 SITE 00010 SITE 00012 SITE 00014 SITE 00022 SITE 00024 SITE 00025 SITE 00027 SITE 00030 SITE 00031 SITE 00227	NAVFAC SOUTHWEST - BLDG. 1	

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N60028 / 001268 BRAC SER BPMOW.LNL/0593 CORRESPONDENC NONE 3	04-19-2005 **04-05-2005** NONE	NAVFAC - SOUTHWEST SULLIVAN, J. VARIOUS AGENCIES	TRANSMITTAL SERVING AS FORMAL NOTIFICATION THE NAVY HAS REDEFINED THE SITE BOUNDARY FOR THE FORMER SOUTH STORAGE YARD (PORTION OF MAILING LIST IS SENSITIVE)	ADMIN RECORD INFO REPOSITORY SENSITIVE	SITE 00031	NAVFAC SOUTHWEST - BLDG. 1	
N60028 / 001554 BRAC SER BPMOW.LNL/1152 CORRESPONDENC NONE 1	11-28-2008 **08-29-2005** NONE	BRAC PMO WEST SULLIVAN, J. VARIOUS AGENCIES	TRANSMITTAL OF THE DRAFT REMEDIAL INVESTIGATION REPORT, SOUTH STORAGE YARD (W/OUT ENCLOSURE)	ADMIN RECORD	SITE 00031	NAVFAC SOUTHWEST - BLDG. 1	
N60028 / 001307 NONE CORRESPONDENC NONE 1	12-20-2005 **10-18-2005** NONE	RAB MEMBERS BRENNAN, N. BRAC PMO WEST SULLIVAN, J.	RESTORATION ADVISORY BOARD (RAB) MEMBER COMMENTS ON DRAFT REMEDIAL INVESTIGATION REPORT, FORMER SOUTH STORAGE YARD [PORTION OF THE MAILING LIST IS SENSITIVE]	ADMIN RECORD INFO REPOSITORY SENSITIVE	SITE 00031	NAVFAC SOUTHWEST - BLDG. 1	
N60028 / 001309 PROJ. NO 4850.005 CORRESPONDENC NONE 6	12-20-2005 **10-20-2005** NONE	GEOMATRIX FOOTE, G. NAVFAC - SOUTHWEST DIVISION LANDERS, L.	GEOMATRIX CONSULTANTS, INC. COMMENTS ON BEHALF OF THE TREASURE ISLAND DEVELOPMENT AUTHORITY (TIDA) ON DRAFT REMEDIAL INVESTIGATION REPORT FORMER SOUTH STORAGE YARD (INCLUDES EXPONENT'S COMMENTS ON THE HUMAN HEALTH RISK ASSESSMENT [HHRA])	ADMIN RECORD INFO REPOSITORY	SITE 00031	NAVFAC SOUTHWEST - BLDG. 1	
N60028 / 001308 NONE CORRESPONDENC NONE 3	12-20-2005 **10-24-2005** NONE	US EPA - SAN FRANCISCO COLLINS, P. NAVFAC - SOUTHWEST DIVISION	US ELECTRONIC MAIL COMMENTS ON THE DRAFT REMEDIAL INVESTIGATION (RI) REPORT, FORMER SOUTH STORAGE YARD	ADMIN RECORD INFO REPOSITORY	SITE 00031	NAVFAC SOUTHWEST - BLDG. 1	

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N60028 / 001303 NONE CORRESPONDENC NONE 0	12-15-2005 **11-04-2005** NONE	DTSC - BERKELEY RIST, D. NAVFAC - SOUTHWEST DIVISION LANDERS, L.	COMMENTS ON THE DRAFT REMEDIAL INVESTIGATION (RI) REPORT, FORMER SOUTH STORAGE YARD (INCLUDES COMMENTS FROM HERD DATED 03 NOVEMBER 2005)	ADMIN RECORD INFO REPOSITORY	SITE 00031	NAVFAC SOUTHWEST - BLDG. 1	
N60028 / 001369 NONE MINUTES NONE 45	08-02-2006 **05-02-2006** NONE	TETRA TECH EM INC. BRAC PMO WEST	02 MAY 2006 FINAL FEASIBILITY STUDY TECHNICAL SCOPING MEETING MINUTES (INCLUDES SIGN IN SHEET AND VARIOUS HANDOUT MATERIALS)	ADMIN RECORD INFO REPOSITORY	SITE 00031	NAVFAC SOUTHWEST - BLDG. 1	
N60028 / 001353 BRAC SER BPMOW.INL/0452 CORRESPONDENC NONE 14	05-23-2006 **05-19-2006** NONE	BRAC PMO WEST SULLIVAN, J. DTSC - BERKELEY RIST, D.	REQUEST FOR IDENTIFICATION OF STATE APPLICABLE OR RELEVANT AND APPROPRIATE REQUIREMENTS (ARARS) FOR THE FEASIBILITY STUDY FOR THE FORMER SOUTH STORAGE YARD (INCLUDES EXECUTIVE SUMMARY, DRAFT FINAL REMEDIATION INVESTIGATION (RI) REPORT)	ADMIN RECORD INFO REPOSITORY	SITE 00031	NAVFAC SOUTHWEST - BLDG. 1	
N60028 / 001555 NONE CORRESPONDENC NONE 3	11-28-2008 **05-30-2006** NONE	CRWQCB - OAKLAND, CA FARRES, A. BRAC PMO WEST SULLIVAN, J.	REVIEW AND COMMENTS ON THE DRAFT REMEDIAL INVESTIGATION (RI) REPORT, FORMER SOUTH STORAGE YARD	ADMIN RECORD	SITE 00031	NAVFAC SOUTHWEST - BLDG. 1	
N60028 / 001556 NONE CORRESPONDENC NONE 1	11-28-2008 **05-31-2006** NONE	BRAC PMO WEST LANDERS, L. CRWQCB - OAKLAND, CA FARRES, A.	RESPONSE TO COMMENTS ON THE DRAFT REMEDIAL INVESTIGATION (RI) REPORT, FORMER SOUTH STORAGE YARD	ADMIN RECORD	SITE 00031	NAVFAC SOUTHWEST - BLDG. 1	

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N60028 / 001537 NONE CORRESPONDENC NONE 14	08-12-2008 **06-09-2006** NONE	HERD - BERKELEY, CA POLISINI, J. OMF - BERKELEY, CA RIST, D.	COMMENTS ON THE COMPARISON OF HABITAT ON TREASURE ISLAND AND YERBA BUENA ISLAND (INCLUDES COMPARISON OF HABITAT ON TREASURE ISLAND AND YERBA BUENA ISLAND EMAILED 22 MAY 2006)	ADMIN RECORD	SITE 00006 SITE 00012 SITE 00021 SITE 00024 SITE 00030 SITE 00031 SITE 00032 SITE 00033	NAVFAC SOUTHWEST - BLDG. 1	
N60028 / 001581 DS.B021.13926 *REPORT* N68711-03-D-5104 2200	02-11-2009 **07-01-2006** *CTO 0021*	SULTECH BRAC PMO WEST	FINAL REMEDIAL INVESTIGATION REPORT, FORMER SOUTH STORAGE YARD, VOLUMES I AND II OF II (CD COPY ENCLOSED)	ADMIN RECORD	SITE 00031	NAVFAC SOUTHWEST - BLDG. 1	
N60028 / 001580 BRAC SER BPMOW.LNL/0623 CORRESPONDENC NONE 1	02-11-2009 **07-19-2006** NONE	BRAC PMO WEST SULLIVAN, J. VARIOUS AGENCIES	TRANSMITTAL OF THE FINAL REMEDIAL INVESTIGATION REPORT, FORMER SOUTH STORAGE YARD (W/OUT ENCLOSURE)	ADMIN RECORD	SITE 00031	NAVFAC SOUTHWEST - BLDG. 1	
N60028 / 001377 BRAC SER BPMOW.LNL/0707 CORRESPONDENC NONE 1	09-05-2006 **08-14-2006** NONE	BRAC PMO WEST SULLIVAN, J. VARIOUS AGENCIES	TRANSMITTAL OF DRAFT SCREENING-LEVEL ECOLOGICAL RISK ASSESSMENT (W/OUT ENCLOSURE)	ADMIN RECORD INFO REPOSITORY	SITE 00006 SITE 00012 SITE 00021 SITE 00024 SITE 00030 SITE 00031 SITE 00032 SITE 00033	NAVFAC SOUTHWEST - BLDG. 1	

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N60028 / 001378 DS.B126.20517 REPORT N68711-03-D-5104 325	09-05-2006 **08-14-2006** 00126	TETRA TECH EM INC. ROSE, C. BRAC PMO WEST	DRAFT SCREENING-LEVEL ECOLOGICAL RISK ASSESSMENT (CD COPY ENCLOSED)	ADMIN RECORD INFO REPOSITORY	SITE 00006 SITE 00012 SITE 00021 SITE 00024 SITE 00030 SITE 00031 SITE 00032 SITE 00033	NAVFAC SOUTHWEST - BLDG. 1	
N60028 / 001423 NONE CORRESPONDENC NONE 2	03-15-2007 **08-15-2006** NONE	DTSC - BERKELEY RIST, D. BRAC PMO WEST LANDERS, L.	RESPONSE TO REQUEST FOR IDENTIFICATION OF STATE APPLICABLE OR RELEVANT AND APPROPRIATE *REQUIREMENTS (ARARS) FOR FEASIBILITY* STUDY (FS), FORMER SOUTH STORAGE YARD	ADMIN RECORD INFO REPOSITORY	SITE 00031	NAVFAC SOUTHWEST - BLDG. 1	
N60028 / 001392 BRAC SER BPMOW.LNL/0802 CORRESPONDENC NONE 1	11-15-2006 **09-29-2006** NONE	BRAC PMO WEST SULLIVAN, J. VARIOUS AGENCIES	TRANSMITTAL OF DRAFT FEASIBILITY STUDY (FS), FORMER SOUTH STORAGE YARD (W/OUT ENCLOSURE)	ADMIN RECORD INFO REPOSITORY	SITE 00031	NAVFAC SOUTHWEST - BLDG. 1	
N60028 / 001393 DS.B118.20351 REPORT N68711-03-D-5104 120	11-15-2006 **09-29-2006** 00118	SULTECH RHOADES, D. BRAC PMO WEST	DRAFT FEASIBILITY STUDY (FS) REPORT, FORMER SOUTH STORAGE YARD	ADMIN RECORD INFO REPOSITORY	SITE 00031	NAVFAC SOUTHWEST - BLDG. 1	

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N60028 / 001594 TTEM-0055-FZN6-0210 MINUTES N62467-04-D-0055 59	03-18-2009 **10-17-2006** CTO FZN6	TETRA TECH EM, INC. RAB MEMBERS	17 OCTOBER 2006 FINAL RESTORATION ADVISORY BOARD (RAB) MEETING MINUTES, MEETING # 126 (INCLUDES VARIOUS HANDOUTS AND CD COPY)	ADMIN RECORD INFO REPOSITORY	SITE 00009 SITE 00010 SITE 00012 SITE 00021 SITE 00024 SITE 00027 SITE 00031 SITE 00032 SITE 00033	NAVFAC SOUTHWEST - BLDG. 1	
N60028 / 001417 PROJECT NO. 4850.005.3 CORRESPONDENC NONE 4	02-08-2007 **10-31-2006** NONE	GEOMATRIX FOOTE, G. VARIOUS AGENCIES	REVIEW AND COMMENTS ON DRAFT FEASIBILITY STUDY (FS), FORMER SOUTH STORAGE YARD	ADMIN RECORD INFO REPOSITORY	SITE 00031	NAVFAC SOUTHWEST - BLDG. 1	
N60028 / 001418 NONE CORRESPONDENC NONE 1	02-08-2007 **10-31-2006** NONE	RAB MEMBER SMITH, D. BRAC PMO WEST SULLIVAN, J.	REVIEW AND COMMENTS ON DRAFT FEASIBILITY STUDY (FS), FORMER SOUTH STORAGE YARD (PORTION OF THE MAILING LIST IS SENSITIVE)	ADMIN RECORD INFO REPOSITORY SENSITIVE	SITE 00031	NAVFAC SOUTHWEST - BLDG. 1	
N60028 / 001419 DS.B118.20353 CORRESPONDENC N68711-03-D-5104 11	02-08-2007 **11-27-2006** 00118	SULTECH NAVFAC - SOUTHWEST DIVISION	DRAFT RESPONSES TO COMMENTS ON DRAFT FEASIBILITY STUDY (FS) REPORT, FORMER SOUTH STORAGE YARD	ADMIN RECORD INFO REPOSITORY	SITE 00031	NAVFAC SOUTHWEST - BLDG. 1	

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N60028 / 001595 TTEM-0055-FZN6-0211 MINUTES N62467-04-D-0055 34	03-18-2009 12-19-2006 CTO FZN6	TETRA TECH EM, INC. RAB MEMBERS	19 DECEMBER 2006 FINAL RESTORATION ADVISORY BOARD (RAB) MEETING MINUTES, MEETING # 127 (INCLUDES VARIOUS HANDOUTS AND CD COPY)	ADMIN RECORD INFO REPOSITORY	BLDG 00001 BLDG 00061 BLDG 00083 BLDG 00233 BLDG 00240 BLDG 01311 BLDG 01313 BLDG 01325 SITE 00006 SITE 00008 SITE 00009 SITE 00010 SITE 00012 SITE 00021 SITE 00024 SITE 00025 SITE 00027 SITE 00028 SITE 00029 SITE 00030 SITE 00031 SITE 00032 SITE 00033	NAVFAC SOUTHWEST - BLDG. 1	

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N60028 / 001502 TTEM.0055.FZN6.0107 MINUTES N62467-04-D-0055 60	05-20-2008 **01-09-2007** FZN6	TETRA TECH EM INC. BRAC PMO WEST	09 JANUARY 2007 FINAL MEETING MINUTES, REMEDIAL PROJECT MANAGERS (RPM) AND BASE REALIGNMENT AND CLOSURE (BRAC) CLEANUP TEAM (BCT) {INCLUDES AGENDA, SIGN-IN SHEET, VARIOUS HANDOUTS, AND CD COPY)	ADMIN RECORD INFO REPOSITORY	BLDG 000233 SITE 00006 SITE 00008 SITE 00009 SITE 00010 SITE 00011 SITE 00012 SITE 00021 SITE 00024 SITE 00025 SITE 00027 SITE 00028 SITE 00029 SITE 00030 SITE 00031 SITE 00032	NAVFAC SOUTHWEST - BLDG. 1	
N60028 / 001432 BRAC SER BPMOW.CP/0362 CORRESPONDENC NONE 2	04-03-2007 **02-16-2007** NONE	BRAC PMO WEST SULLIVAN, J. DTSC - BERKELEY WONG, H.	TRANSMITTAL OF FINAL FEASIBILITY STUDY (FS) REPORT, FORMER SOUTH STORAGE YARD (W/OUT ENCLOSURE)	ADMIN RECORD INFO REPOSITORY	SITE 00031	NAVFAC SOUTHWEST - BLDG. 1	
N60028 / 001433 DS.B118.20357 REPORT N68711-03-D-5104 200	04-03-2007 **02-16-2007** 00118	SULTECH RHOADES, D. BRAC PMO WEST	FINAL FEASIBILITY STUDY (FS) REPORT, FORMER SOUTH STORAGE YARD (CD COPY IS ENCLOSED)	ADMIN RECORD INFO REPOSITORY	SITE 00031	NAVFAC SOUTHWEST - BLDG. 1	

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N60028 / 001596 TTEM-0055-FZN6-0003 MINUTES N62467-04-D-0055 40	03-18-2009 **02-20-2007** CTO FZN6	TETRA TECH EM, INC. RAB MEMBERS	20 FEBRUARY 2007 FINAL RESTORATION ADVISORY BOARD (RAB) MEETING MINUTES, MEETING # 128 (INCLUDES VARIOUS HANDOUTS AND CD COPY)	ADMIN RECORD INFO REPOSITORY	SITE 00008 SITE 00009 SITE 00010 SITE 00012 SITE 00021 SITE 00024 SITE 00027 SITE 00028 SITE 00029 SITE 00030 SITE 00031	NAVFAC SOUTHWEST - BLDG. 1	
N60028 / 001430 BRAC SER BPMOW.CP/0421 CORRESPONDENC NONE 3	03-27-2007 **03-19-2007** NONE	BRAC PMO WEST SULLIVAN, J. DTSC - BERKELEY WONG, H.	TRANSMITTAL OF DRAFT PROPOSED PLAN (PP) FOR REMEDIAL ACTION, FORMER SOUTH STORAGE YARD (W/OUT ENCLOSURE)	ADMIN RECORD INFO REPOSITORY	SITE 00031	NAVFAC SOUTHWEST - BLDG. 1	
N60028 / 001431 BAI.DS.025.00106 REPORT N68711-03-D-5106 13	03-27-2007 **03-19-2007** 00025	BARAJAS & ASSOCIATES, INC. VEDAGIRI, E. BRAC PMO WEST	DRAFT PROPOSED PLAN FOR REMEDIAL ACTION, FORMER SOUTH STORAGE YARD	ADMIN RECORD INFO REPOSITORY	SITE 00031	NAVFAC SOUTHWEST - BLDG. 1	
N60028 / 001434 BRAC SER BPMOW.CP/0434 CORRESPONDENC NONE 2	04-04-2007 **03-23-2007** NONE	BRAC PMO WEST SULLIVAN, J. DTSC - BERKELEY WONG, H.	TRANSMITTAL OF FINAL SCREENING-LEVEL ECOLOGICAL RISK ASSESSMENT (SLERA) [W/OUT ENCLOSURE]	ADMIN RECORD INFO REPOSITORY	SITE 00006 SITE 00012 SITE 00021 SITE 00024 SITE 00030 SITE 00031 SITE 00032 SITE 00033	NAVFAC SOUTHWEST - BLDG. 1	

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N60028 / 001435 DS.B126.20521 REPORT N68711-03-D-5104 650	04-04-2007 **03-23-2007** 00126	SULTECH ROSE, C. BRAC PMO WEST	FINAL SCREENING-LEVEL ECOLOGICAL RISK ASSESSMENT (SLERA)	ADMIN RECORD INFO REPOSITORY	SITE 00006 SITE 00012 SITE 00021 SITE 00024 SITE 00030 SITE 00031 SITE 00032 SITE 00033	NAVFAC SOUTHWEST - BLDG. 1	
N60028 / 001500 TTEM.0055.FZN6.00 11 MINUTES N62467-04-D-0055 30	05-15-2008 **04-03-2007** *FZN6*	TETRA TECH EM INC. BRAC PMO WEST	03 APRIL 2007 DRAFT MEETING MINUTES, REMEDIAL PROJECT MANAGERS (RPM) AND BASE REALIGNMENT AND CLOSURE (BRAC) CLEANUP TEAM (BCT) [INCLUDES AGENDA, SIGN-IN SHEET, VARIOUS HANDOUTS, AND CD COPY]	ADMIN RECORD INFO REPOSITORY	BLDG 000233 SITE 00006 SITE 00009 SITE 00010 SITE 00012 SITE 00021 SITE 00024 SITE 00025 SITE 00027 SITE 00028 SITE 00030 SITE 00031 SITE 00032 SITE 00033	NAVFAC SOUTHWEST - BLDG. 1	

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N60028 / 001505 TTEM.0055.FZN6.00 12 MINUTES N62467-04-D-0055 40	05-20-2008 **04-03-2007** FZN6	TETRA TECH EM INC. BRAC PMO WEST	03 APRIL 2007 FINAL MEETING MINUTES, REMEDIAL PROJECT MANAGERS (RPM) AND BASE REALIGNMENT AND CLOSURE (BRAC) CLEANUP TEAM (BCT) [INCLUDES AGENDA, SIGN-IN SHEET, AND VARIOUS HANDOUTS, AND CD COPY]	ADMIN RECORD INFO REPOSITORY	BLDG 000233 SITE 00006 SITE 00009 SITE 00010 SITE 00012 SITE 00021 SITE 00024 SITE 00025 SITE 00027 SITE 00028 SITE 00030 SITE 00031 SITE 00032 SITE 00033	NAVFAC SOUTHWEST - BLDG. 1	
N60028 / 001597 TTEM-0055-FZN6-0008 MINUTES N62467-04-D-0055 63	03-18-2009 **04-17-2007** CTO FZN6	TETRA TECH EM, INC. RAB MEMBERS	17 APRIL 2007 FINAL RESTORATION ADVISORY BOARD (RAB) MEETING MINUTES, MEETING # 129 (INCLUDES AGENDA, VARIOUS HANDOUTS, AND CD COPY)	ADMIN RECORD INFO REPOSITORY	BLDG 01311 BLDG 01313 SITE 00009 SITE 00010 SITE 00012 SITE 00021 SITE 00024 SITE 00027 SITE 00030 SITE 00031	NAVFAC SOUTHWEST - BLDG. 1	

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N60028 / 001499 TTEM.0055.FZN6.0014 MINUTES N62467-04-D-0055 30	05-15-2008 **05-01-2007** FZN6	TETRA TECH EM INC. BRAC PMO WEST	01 MAY 2007 DRAFT MEETING MINUTES, REMEDIAL PROJECT MANAGERS (RPM) AND BASE REALIGNMENT AND CLOSURE (BRAC) CLEANUP TEAM (BCT) [INCLUDES AGENDA, SIGN-IN SHEET, AND VARIOUS HANDOUTS, AND CD COPY]	ADMIN RECORD INFO REPOSITORY	BLDG 000233 SITE 00006 SITE 00009 SITE 00010 SITE 00012 SITE 00024 SITE 00025 SITE 00027 SITE 00030 SITE 00031 SITE 00033	NAVFAC SOUTHWEST - BLDG. 1	
N60028 / 001506 TTEM.0055.FZN6.0015 MINUTES N62467-04-D-0055 35	05-20-2008 **05-01-2007** FZN6	TETRA TECH EM INC. BRAC PMO WEST	01 MAY 2007 FINAL MEETING MINUTES, REMEDIAL PROJECT MANAGERS (RPM) AND BASE REALIGNMENT AND CLOSURE (BRAC) CLEANUP TEAM (BCT) [INCLUDES AGENDA, SIGN-IN SHEET, AND VARIOUS HANDOUTS, AND CD COPY]	ADMIN RECORD INFO REPOSITORY	BLDG 000233 SITE 00006 SITE 00009 SITE 00010 SITE 00012 SITE 00021 SITE 00024 SITE 00025 SITE 00027 SITE 00028 SITE 00030 SITE 00031 SITE 00032 SITE 00033	NAVFAC SOUTHWEST - BLDG. 1	

UIC No. / Rec. No. Doc. Control No. Record Type Contr./Guid. No. Approx. # Pages	Prc. Date Record Date CTO No. EPA Cat. #	Author Affil. Author Recipient Affil. Recipient	Subject	Classification	Sites	Location SWDIV Box No(s) CD No.	FRC Accession No. FRC Warehouse FRC Box No(s)
N60028 / 001498 TTEM.0055.FZN6.0017 MINUTES N62467-04-D-0055 30	05-15-2008 **06-05-2007** FZN6	TETRA TECH EM INC. BRAC PMO WEST	05 JUNE 2007 DRAFT MEETING MINUTES, REMEDIAL PROJECT MANAGERS (RPM) AND BASE REALIGNMENT AND CLOSURE (BRAC) CLEANUP TEAM (BCT) [INCLUDES AGENDA, SIGN-IN SHEET, VARIOUS HANDOUTS, DRAFT AGENDA FOR THE 19 JUNE 2007 RAB MEETING, AND CD COPY]	ADMIN RECORD INFO REPOSITORY	BLDG 000233 SITE 00006 SITE 00009 SITE 00010 SITE 00012 SITE 00021 SITE 00024 SITE 00025 SITE 00027 SITE 00030 SITE 00031 SITE 00032 SITE 00033	NAVFAC SOUTHWEST - BLDG. 110	
N60028 / 001507 TTEM.0055.FZN6.0018 MINUTES N62467-04-D-0055 40	05-20-2008 **06-05-2007** FZN6	TETRA TECH EM INC. BRAC PMO WEST	05 JUNE 2007 FINAL MEETING MINUTES, REMEDIAL PROJECT MANAGERS (RPM) AND BASE REALIGNMENT AND CLOSURE (BRAC) CLEANUP TEAM (BCT) [INCLUDES AGENDA, SIGN-IN SHEET, AND VARIOUS HANDOUTS, AND CD COPY]	ADMIN RECORD INFO REPOSITORY	BLDG 000233 SITE 00006 SITE 00009 SITE 00010 SITE 00012 SITE 00021 SITE 00024 SITE 00025 SITE 00027 SITE 00028 SITE 00030 SITE 00031 SITE 00032 SITE 00033	NAVFAC SOUTHWEST - BLDG. 1	

UIC No. / Rec. No. Doc. Control No. Record Type Contr./Guid. No. Approx. # Pages	Prc. Date Record Date CTO No. EPA Cat. #	Author Affil. Author Recipient Affil. Recipient	Subject	Classification	Sites	Location SWDIV Box No(s) CD No.	FRC Accession No. FRC Warehouse FRC Box No(s)
N60028 / 001508 TTEM.0055.FZN6.0021 MINUTES N62467-04-D-0055 45	05-20-2008 **07-10-2007** FZN6	TETRA TECH EM INC. BRAC PMO WEST	10 JULY 2007 FINAL MEETING MINUTES, REMEDIAL PROJECT MANAGERS (RPM) AND BASE REALIGNMENT AND CLOSURE (BRAC) CLEANUP TEAM (BCT) [INCLUDES AGENDA, SIGN-IN SHEET, AND VARIOUS HANDOUTS, AND CD COPY]	ADMIN RECORD INFO REPOSITORY	BLDG 000233 SITE 00006 SITE 00009 SITE 00010 SITE 00012 SITE 00021 SITE 00024 SITE 00025 SITE 00027 SITE 00028 SITE 00030 SITE 00031 SITE 00032 SITE 00033	NAVFAC SOUTHWEST - BLDG. 1	
N60028 / 001509 TTEM.0055.FZN6.0024 MINUTES N62467-04-D-0055 200	05-20-2008 **08-08-2007** FZN6	TETRA TECH EM INC. BRAC PMO WEST	08 AND 09 AUGUST 2007 FINAL MEETING MINUTES, REMEDIAL PROJECT MANAGERS (RPM) AND BASE REALIGNMENT AND CLOSURE (BRAC) CLEANUP TEAM (BCT) MEETING MINUTES [INCLUDES AGENDA, SIGN-IN SHEET, AND VARIOUS HANDOUTS, AND CD COPY]	ADMIN RECORD INFO REPOSITORY	BLDG 000233 SITE 00006 SITE 00009 SITE 00010 SITE 00012 SITE 00021 SITE 00024 SITE 00025 SITE 00027 SITE 00028 SITE 00030 SITE 00031 SITE 00032 SITE 00033	NAVFAC SOUTHWEST - BLDG. 1	

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N60028 / 001599 TTEM-0055-FZN6-0101 MINUTES N62467-04-D-0055 32	03-18-2009 **08-21-2007** CTO FZN6	TETRA TECH EM, INC. RAB MEMBERS	21 AUGUST 2007 FINAL RESTORATION ADVISORY BOARD (RAB) MEETING MINUTES, MEETING # 131 (INCLUDES AGENDA, VARIOUS HANDOUTS, AND CD COPY)	ADMIN RECORD INFO REPOSITORY	SITE 00006 SITE 00008 SITE 00009 SITE 00010 SITE 00012 SITE 00021 SITE 00024 SITE 00027 SITE 00028 SITE 00029 SITE 00030 SITE 00031 SITE 00033	NAVFAC SOUTHWEST - BLDG. 1	
N60028 / 001495 TTEM.0055.FZN6.0026 MINUTES N62467-04-D-0055 30	05-15-2008 **09-11-2007** FZN6	TETRA TECH EM INC. BRAC PMO WEST	11 SEPTEMBER 2007 DRAFT MEETING MINUTES, REMEDIAL PROJECT MANAGERS (RPM) AND BASE REALIGNMENT AND CLOSURE (BRAC) CLEANUP TEAM (BCT) [INCLUDES AGENDA, SIGN-IN SHEET, AND VARIOUS HANDOUTS, AND CD COPY]	ADMIN RECORD INFO REPOSITORY	BLDG 000233 SITE 00006 SITE 00008 SITE 00009 SITE 00010 SITE 00012 SITE 00021 SITE 00024 SITE 00025 SITE 00027 SITE 00028 SITE 00029 SITE 00030 SITE 00031 SITE 00032 SITE 00033	NAVFAC SOUTHWEST - BLDG. 1	

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N60028 / 001510 TTEM.0055.FZN6.0027 MINUTES N62467-04-D-0055 40	05-20-2008 **09-11-2007** FZN6	TETRA TECH EM INC. BRAC PMO WEST	11 SEPTEMBER 2007 FINAL MEETING MINUTES, REMEDIAL PROJECT MANAGERS (RPM) AND BASE REALIGNMENT AND CLOSURE (BRAC) CLEANUP TEAM (BCT) [INCLUDES AGENDA, SIGN-IN SHEET, AND VARIOUS HANDOUTS, AND CD COPY]	ADMIN RECORD INFO REPOSITORY	BLDG 000233 SITE 00006 SITE 00009 SITE 00010 SITE 00012 SITE 00021 SITE 00024 SITE 00025 SITE 00027 SITE 00028 SITE 00030 SITE 00031 SITE 00032 SITE 00033	NAVFAC SOUTHWEST - BLDG. 1	
N60028 / 001494 TTEM.0055.FZN6.0029 MINUTES N62467-04-D-0055 30	05-15-2008 **10-02-2007** FZN6	TETRA TECH EM INC. BRAC PMO WEST	02 OCTOBER 2007 DRAFT MEETING MINUTES, REMEDIAL PROJECT MANAGERS (RPM) AND BASE REALIGNMENT AND CLOSURE (BRAC) CLEANUP TEAM (BCT) [INCLUDES AGENDA, SIGN-IN SHEET, AND VARIOUS HANDOUTS, AND CD COPY]	ADMIN RECORD INFO REPOSITORY	BLDG 000233 SITE 00006 SITE 00008 SITE 00009 SITE 00010 SITE 00012 SITE 00021 SITE 00024 SITE 00025 SITE 00027 SITE 00028 SITE 00029 SITE 00030 SITE 00031 SITE 00032 SITE 00033	NAVFAC SOUTHWEST - BLDG. 1	

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N60028 / 001511 TTEM.0055.FZN6.00 30 MINUTES N62467-04-D-0055 40	05-20-2008 **10-02-2007** FZN6	TETRA TECH EM INC. BRAC PMO WEST	02 OCTOBER 2007 FINAL MEETING MINUTES, REMEDIAL PROJECT MANAGERS (RPM) AND BASE REALIGNMENT AND CLOSURE (BRAC) CLEANUP TEAM (BCT) [INCLUDES AGENDA, SIGN-IN SHEET, AND VARIOUS HANDOUTS, AND CD COPY]	ADMIN RECORD INFO REPOSITORY	BLDG 000233 SITE 00006 SITE 00009 SITE 00010 SITE 00012 SITE 00021 SITE 00024 SITE 00025 SITE 00027 SITE 00028 SITE 00030 SITE 00031 SITE 00032 SITE 00033	NAVFAC SOUTHWEST - BLDG. 1	
N60028 / 001493 TTEM.0055.FZN6.00 32 MINUTES N62467-04-D-0055 30	05-15-2008 **11-06-2007** FZN6	TETRA TECH EM INC. BRAC PMO WEST	06 NOVEMBER 2007 DRAFT MEETING MINUTES, REMEDIAL PROJECT MANAGERS (RPM) AND BASE REALIGNMENT AND CLOSURE (BRAC) CLEANUP TEAM (BCT) [INCLUDES AGENDA, SIGN-IN SHEET, AND VARIOUS HANDOUTS, AND CD COPY]	ADMIN RECORD INFO REPOSITORY	BLDG 000233 SITE 00006 SITE 00008 SITE 00009 SITE 00010 SITE 00012 SITE 00021 SITE 00024 SITE 00025 SITE 00027 SITE 00028 SITE 00029 SITE 00030 SITE 00031 SITE 00032 SITE 00033	NAVFAC SOUTHWEST - BLDG. 1	

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N60028 / 001512 TTEM.0055.FZN6.0033 MINUTES N62467-04-D-0055 40	05-20-2008 **11-06-2007** FZN6	TETRA TECH EM INC. BRAC PMO WEST	06 NOVEMBER 2007 FINAL MEETING MINUTES, REMEDIAL PROJECT MANAGERS (RPM) AND BASE REALIGNMENT AND CLOSURE (BRAC) CLEANUP TEAM (BCT) [INCLUDES AGENDA, SIGN-IN SHEET, AND VARIOUS HANDOUTS, AND CD COPY]	ADMIN RECORD INFO REPOSITORY	BLDG 000233 SITE 00006 SITE 00009 SITE 00010 SITE 00012 SITE 00021 SITE 00024 SITE 00025 SITE 00027 SITE 00028 SITE 00030 SITE 00031 SITE 00032 SITE 00033	NAVFAC SOUTHWEST - BLDG. 1	
N60028 / 001492 TTEM.0055.FZN6.0035 MINUTES N62467-04-D-0055 30	05-15-2008 **12-04-2007** FZN6	TETRA TECH EM INC. BRAC PMO WEST	04 DECEMBER 2007 DRAFT MEETING MINUTES, REMEDIAL PROJECT MANAGERS (RPM) AND BASE REALIGNMENT AND CLOSURE (BRAC) CLEANUP TEAM (BCT) [INCLUDES AGENDA, SIGN-IN SHEET, AND VARIOUS HANDOUTS, AND CD COPY]	ADMIN RECORD INFO REPOSITORY	BLDG 000233 SITE 00008 SITE 00009 SITE 00010 SITE 00012 SITE 00024 SITE 00027 SITE 00028 SITE 00029 SITE 00030 SITE 00031 SITE 00032 SITE 00033	NAVFAC SOUTHWEST - BLDG. 1	

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N60028 / 001513 TTEM.0055.FZN6.0036 MINUTES N62467-04-D-0055 40	05-20-2008 **12-04-2007** FZN6	TETRA TECH EM INC. BRAC PMO WEST	04 DECEMBER 2007 FINAL MEETING MINUTES, REMEDIAL PROJECT MANAGERS (RPM) AND BASE REALIGNMENT AND CLOSURE (BRAC) CLEANUP TEAM (BCT) [INCLUDES AGENDA, SIGN-IN SHEET, AND VARIOUS HANDOUTS, AND CD COPY]	ADMIN RECORD INFO REPOSITORY	BLDG 000233 SITE 00006 SITE 00009 SITE 00010 SITE 00012 SITE 00021 SITE 00024 SITE 00025 SITE 00027 SITE 00028 SITE 00030 SITE 00031 SITE 00032 SITE 00033	NAVFAC SOUTHWEST - BLDG. 1	
N60028 / 001617 TTEM-0055-FZN6-0112 MINUTES N62467-04-D-0055 57	06-01-2009 **02-05-2008** CTO FZN6	TETRA TECH EM, INC. BRAC PMO WEST	05 FEBRUARY 2008 FINAL REMEDIAL PROJECT MANAGERS (RPM) AND BASE REALIGNMENT AND CLOSURE (BRAC) CLEANUP TEAM (BCT) MEETING MINUTES [INCLUDES AGENDA, SIGN-IN SHEET, AND VARIOUS HANDOUTS] {CD COPY ENCLOSED}	ADMIN RECORD INFO REPOSITORY	BLDG 00233 SITE 00006 SITE 00012 SITE 00024 SITE 00030 SITE 00031	NAVFAC SOUTHWEST - BLDG. 1	
N60028 / 001618 TTEM-0055-FZN6-0115 MINUTES N62467-04-D-0055 48	06-01-2009 **03-04-2008** CTO FZN6	TETRA TECH EM, INC. BRAC PMO WEST	04 MARCH 2008 FINAL REMEDIAL PROJECT MANAGERS (RPM) AND BASE REALIGNMENT AND CLOSURE (BRAC) CLEANUP TEAM (BCT) MEETING MINUTES [INCLUDES AGENDA, SIGN-IN SHEET, AND VARIOUS HANDOUTS] {CD COPY ENCLOSED}	ADMIN RECORD INFO REPOSITORY	BLDG 01319 BLDG 01321 SITE 00006 SITE 00011 SITE 00012 SITE 00021 SITE 00024 SITE 00030 SITE 00031	NAVFAC SOUTHWEST - BLDG. 1	

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N60028 / 001480 BRAC SER BPMOW.CP/0313 & BAI-5106-0025-0001 CORRESPONDENC N68711-03-D-5106 17	03-25-2008 **03-07-2008** CTO 0025	BRAC PMO WEST SULLIVAN, J. DTSC - BERKELEY, CA MIYA, R.	TRANSMITTAL OF THE RESPONSE TO COMMENTS ON DRAFT PROPOSED PLANS, DAYCARE CENTER AND FORMER SOUTH STORAGE YARD (W/ ENCLOSURE) [CD COPY ENCLOSED]	ADMIN RECORD INFO REPOSITORY	SITE 00030 SITE 00031	NAVFAC SOUTHWEST - BLDG. 1	
N60028 / 001558 TTEM.0055.FZN6.01 17 MINUTES N62467-04-D-0055 43	12-04-2008 **04-01-2008** FZN6	TETRA TECH EM, INC. BRAC PMO WEST	01 APRIL 2008 DRAFT REMEDIAL PROJECT MANAGERS (RPM) AND BASE REALIGNMENT AND CLOSURE (BRAC) AND CLEANUP TEAM (BCT) MEETING MINUTES (INCLUDES AGENDA, SIGN-IN SHEET, VARIOUS HANDOUTS, AND CD COPY)	ADMIN RECORD INFO REPOSITORY	BLDG 00233 BLDG 01207 BLDG 01209 BLDG 01231 BLDG 01233 BLDG 01319 BLDG 01321 SITE 00006 SITE 00012 SITE 00024 SITE 00027 SITE 00030 SITE 00031 SITE 00032	NAVFAC SOUTHWEST - BLDG. 1	
N60028 / 001620 TTEM-0055-FZN6-0118 MINUTES N62467-04-D-0055 43	06-04-2009 **04-01-2008** CTO FZN6	TETRA TECH EM, INC. BRAC PMO WEST	01 APRIL 2008 FINAL REMEDIAL PROJECT MANAGERS (RPM) AND BASE REALIGNMENT AND CLOSURE (BRAC) CLEANUP TEAM (BCT) MEETING MINUTES [INCLUDES AGENDA, SIGN-IN SHEET, AND VARIOUS HANDOUTS] {CD COPY ENCLOSED}	ADMIN RECORD INFO REPOSITORY	BLDG 00233 BLDG 01207 BLDG 01209 BLDG 01233 BLDG 01319 BLDG 01321 SITE 00012 SITE 00021 SITE 00024 SITE 00027 SITE 00030 SITE 00031	NAVFAC SOUTHWEST - BLDG. 1	

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N60028 / 001603 TTEM-0055-FZN6-0127 MINUTES N62467-04-D-0055 45	03-18-2009 **04-15-2008** CTO FZN6	TETRA TECH EM, INC. RAB MEMBERS	15 APRIL 2008 FINAL RESTORATION ADVISORY BOARD (RAB) MEETING MINUTES, MEETING # 135 (INCLUDES AGENDA, VARIOUS HANDOUTS, AND CD COPY)	ADMIN RECORD INFO REPOSITORY	BLDG 00233 BLDG 00343 BLDG 00344 SITE 00011 SITE 00012 SITE 00027 SITE 00031	NAVFAC SOUTHWEST - BLDG. 1	
N60028 / 001559 TTEM.0055.FZN6.0120 MINUTES N62467-04-D-0055 47	12-04-2008 **05-06-2008** FZN6	TETRA TECH EM, INC. BRAC PMO WEST	06 MAY 2008 DRAFT REMEDIAL PROJECT MANAGERS (RPM) AND BASE REALIGNMENT AND CLOSURE (BRAC) AND CLEANUP TEAM (BCT) MEETING MINUTES (INCLUDES AGENDA, SIGN-IN SHEET, VARIOUS HANDOUTS, AND CD COPY)	ADMIN RECORD INFO REPOSITORY	BLDG 00233 BLDG 00343 BLDG 01123 BLDG 01207 BLDG 01209 BLDG 01231 BLDG 01233 BLDG 01321 BLDG 01325 BLDG 1321A SITE 00011 SITE 00012 SITE 00024 SITE 00027 SITE 00030 SITE 00031 SITE 00032	NAVFAC SOUTHWEST - BLDG. 1	

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N60028 / 001621 TTEM-0055-FZN6-0121 MINUTES N62467-04-D-0055 47	06-04-2009 **05-06-2008** CTO FZN6	TETRA TECH EM, INC. BRAC PMO WEST	06 MAY 2008 FINAL REMEDIAL PROJECT MANAGERS (RPM) AND BASE REALIGNMENT AND CLOSURE (BRAC) CLEANUP TEAM (BCT) MEETING MINUTES [INCLUDES AGENDA, SIGN-IN SHEET, AND VARIOUS HANDOUTS] {CD COPY ENCLOSED} (CONTAINS SENSITIVE MAPS)	ADMIN RECORD INFO REPOSITORY SENSITIVE	BLDG 00233 BLDG 01207 BLDG 01209 BLDG 01231 BLDG 01233 BLDG 01319 BLDG 01321 SITE 00011 SITE 00012 SITE 00024 SITE 00027 SITE 00030 SITE 00031	NAVFAC SOUTHWEST - BLDG. 1	
N60028 / 001560 TTEM.0055.FZN6.01 41 MINUTES N62467-04-D-0055 81	12-04-2008 **06-03-2008** FZN6	TETRA TECH EM, INC. BRAC PMO WEST	03 JUNE 2008 DRAFT REMEDIAL PROJECT MANAGERS (RPM) AND BASE REALIGNMENT AND CLOSURE (BRAC) AND CLEANUP TEAM (BCT) MEETING MINUTES (INCLUDES AGENDA, SIGN-IN SHEET, VARIOUS HANDOUTS, AND CD COPY)	ADMIN RECORD INFO REPOSITORY	BLDG 00233 BLDG 00461 BLDG 01319 BLDG 01321 SITE 00012 SITE 00024 SITE 00027 SITE 00030 SITE 00031 SITE 00032	NAVFAC SOUTHWEST - BLDG. 1	

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N60028 / 001622 TTEM-0055-FZN6-0142 MINUTES N62467-04-D-0055 82	06-04-2009 **06-03-2008** CTO FZN6	TETRA TECH EM, INC. BRAC PMO WEST	03 JUNE 2008 FINAL REMEDIAL PROJECT MANAGERS (RPM) AND BASE REALIGNMENT AND CLOSURE (BRAC) CLEANUP TEAM (BCT) MEETING MINUTES [INCLUDES AGENDA, SIGN-IN SHEET, AND VARIOUS HANDOUTS] {CD COPY ENCLOSED} (CONTAINS SENSITIVE MAP)	ADMIN RECORD INFO REPOSITORY SENSITIVE	BLDG 00001 BLDG 00003 BLDG 00180 BLDG 00233 BLDG 00240 BLDG 00461 BLDG 01319 BLDG 01321 SITE 00006 SITE 00012 SITE 00021 SITE 00024 SITE 00027 SITE 00030 SITE 00031 SITE 00033	NAVFAC SOUTHWEST - BLDG. 1	
N60028 / 001604 TTEM-0055-FZN6-0130 MINUTES N62467-04-D-0055 27	03-18-2009 **06-17-2008** CTO FZN6	TETRA TECH EM, INC. RAB MEMBERS	17 JUNE 2008 FINAL RESTORATION ADVISORY BOARD (RAB) MEETING MINUTES, MEETING # 136 (INCLUDES AGENDA, VARIOUS HANDOUTS, AND CD COPY)	ADMIN RECORD INFO REPOSITORY	BLDG 00233 SITE 00006 SITE 00012 SITE 00021 SITE 00024 SITE 00025 SITE 00030 SITE 00031 SITE 00032 SITE 00033	NAVFAC SOUTHWEST - BLDG. 1	

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N60028 / 001624 TTEM-0055-FZN6-0145 MINUTES N62467-04-D-0055 85	07-01-2009 07-08-2008 CTO FZN6	TETRA TECH EM, INC. BRAC PMO WEST	08-09 JULY 2008 FINAL REMEDIAL PROJECT MANAGERS (RPM) AND BASE REALIGNMENT AND CLOSURE (BRAC) CLEANUP TEAM (BCT) MEETING MINUTES [INCLUDES AGENDA, SIGN-IN SHEET, VARIOUS HANDOUTS, AND CD COPY]	ADMIN RECORD INFO REPOSITORY	BLDG 00225 BLDG 00233 BLDG 00344 BLDG 01202 BLDG 01211 BLDG 01213 BLDG 01215 BLDG 01217 BLDG 01228 BLDG 01232 BLDG 01235 BLDG 01237 BLDG 01311 BLDG 01313 BLDG 01315 BLDG 01317 BLDG 01319 BLDG 01321 BLDG 01325 SITE 00006 SITE 00008 SITE 00011 SITE 00012 SITE 00020 SITE 00021 SITE 00024 SITE 00025 SITE 00027 SITE 00029 SITE 00030 SITE 00031 SITE 00032 SITE 00033	NAVFAC SOUTHWEST - BLDG. 1	

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N60028 / 001625 TTEM-0055-FZN6-0148 MINUTES N62467-04-D-0055 55	07-01-2009 **08-06-2008** *CTO FZN6*	TETRA TECH EM, INC. BRAC PMO WEST	06 AUGUST 2008 FINAL REMEDIAL PROJECT MANAGERS (RPM) AND BASE REALIGNMENT AND CLOSURE (BRAC) CLEANUP TEAM (BCT) MEETING MINUTES [INCLUDES AGENDA, SIGN-IN SHEET, VARIOUS HANDOUTS, AND CD COPY]	ADMIN RECORD INFO REPOSITORY	BLDG 00233 BLDG 00461 BLDG 01123 BLDG 01207 BLDG 01209 BLDG 01237 BLDG 01319 SITE 00006 SITE 00011 SITE 00012 SITE 00021 SITE 00024 SITE 00025 SITE 00030 SITE 00031 SITE 00032	NAVFAC SOUTHWEST - BLDG. 1	

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N60028 / 001626 TTEM-0055-FZN6-0151 MINUTES N62467-04-D-0055 48	07-01-2009 **09-10-2008** CTO FZN6	TETRA TECH EM, INC. BRAC PMO WEST	10 SEPTEMBER 2008 FINAL REMEDIAL PROJECT MANAGERS (RPM) AND BASE REALIGNMENT AND CLOSURE (BRAC) CLEANUP TEAM (BCT) MEETING MINUTES [INCLUDES AGENDA, SIGN-IN SHEET, VARIOUS HANDOUTS, AND CD COPY]	ADMIN RECORD INFO REPOSITORY	BLDG 00233 BLDG 00343 BLDG 00344 BLDG 01211 BLDG 01213 BLDG 01235 BLDG 01237 BLDG 01319 BLDG 01321 BLDG 01325 SITE 00006 SITE 00008 SITE 00012 SITE 00021 SITE 00024 SITE 00028 SITE 00029 SITE 00030 SITE 00031 SITE 00033	NAVFAC SOUTHWEST - BLDG. 1	
N60028 / 001548 BRAC SER BPMOW.CLP/1024 CORRESPONDENC NONE 2	10-23-2008 **10-16-2008** NONE	BRAC PMO WEST SULLIVAN, J. DTSC - BERKELEY MIYA, R.	TRANSMITTAL OF THE 1) DRAFT, DAYCARE CENTER RECORD OF DECISION (ROD)/FINAL REMEDIAL ACTION PLAN (RAP), AND 2) DRAFT, FORMER SOUTH STORAGE YARD RECORD OF DECISION (ROD) [W/OUT ENCLOSURE]	ADMIN RECORD INFO REPOSITORY	SITE 00030 SITE 00031	NAVFAC SOUTHWEST - BLDG. 1	
N60028 / 001550 BAI.5106.0025.0004 REPORT N68711-03-D-5106 50	10-23-2008 **10-16-2008** 00025	BARAJAS & ASSOCIATES, INC. BRAC PMO WEST	DRAFT FORMER SOUTH STORAGE YARD RECORD OF DECISION (ROD) [CD COPY ENCLOSED]	SITE FILE (SF)	PARCEL T089 PARCEL T092 PARCEL T094 PARCEL T095 SITE 00031	NAVFAC SOUTHWEST - BLDG. 1	

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N60028 / 001627 TTEM-0055-FZN6-0157 MINUTES N62467-04-D-0055 50	07-01-2009 **11-05-2008** CTO FZN6	TETRA TECH EM, INC. BRAC PMO WEST	05 NOVEMBER 2008 FINAL REMEDIAL PROJECT MANAGERS (RPM) AND BASE REALIGNMENT AND CLOSURE (BRAC) CLEANUP TEAM (BCT) MEETING MINUTES [INCLUDES AGENDA, SIGN-IN SHEET, VARIOUS HANDOUTS, AND CD COPY]	ADMIN RECORD INFO REPOSITORY	BLDG 01211 BLDG 01213 BLDG 01235 BLDG 01237 BLDG 01319 BLDG 01321 BLDG 01325 SITE 00006 SITE 00007 SITE 00010 SITE 00012 SITE 00021 SITE 00024 SITE 00027 SITE 00030 SITE 00031 SITE 00032 SITE 00033	NAVFAC SOUTHWEST - BLDG. 1	

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N60028 / 001628 TTEM-0055-FZN6-0160 MINUTES N62467-04-D-0055 47	07-01-2009 **12-03-2008** CTO FZN6	TETRA TECH EM, INC. BRAC PMO WEST	03 DECEMBER 2008 FINAL REMEDIAL PROJECT MANAGERS (RPM) AND BASE REALIGNMENT AND CLOSURE (BRAC) CLEANUP TEAM (BCT) MEETING MINUTES [INCLUDES AGENDA, SIGN-IN SHEET, VARIOUS HANDOUTS, AND CD COPY]	ADMIN RECORD INFO REPOSITORY	BLDG 01145 BLDG 01302 BLDG 01306 BLDG 01313 BLDG 01315 BLDG 01317 BLDG 01319 BLDG 01321 BLDG 01325 SITE 00006 SITE 00011 SITE 00012 SITE 00020 SITE 00021 SITE 00024 SITE 00027 SITE 00030 SITE 00031 SITE 00032	NAVFAC SOUTHWEST - BLDG. 1	
N60028 / 001563 FILE NO. 2169.6013 (PJ) CORRESPONDENC NONE 1	12-10-2008 **12-08-2008** NONE	CRWQCB - OAKLAND, CA JORGENSEN, P. BRAC PMO WEST SULLIVAN, J.	REVIEW AND NO COMMENTS ON 1) DRAFT DAYCARE CENTER RECORD OF DECISION (ROD)/FINAL REMEDIAL ACTION PLAN (RAP), AND 2) DRAFT FORMER SOUTH STORAGE YARD RECORD OF DECISION (ROD) [CD COPY ENCLOSED]	ADMIN RECORD INFO REPOSITORY	SITE 00030 SITE 00031	NAVFAC SOUTHWEST - BLDG. 1	

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N60028 / 001630 TTEM-0055-FZN6-0194 REPORT N62467-04-D-0055 150	07-06-2009 **04-16-2009** CTO FZN6	TETRA TECH EM, INC. RASH, M. BRAC PMO WEST	DRAFT SITE MANAGEMENT PLAN (CD COPY ENCLOSED)	ADMIN RECORD INFO REPOSITORY	SITE 00001 SITE 00003 SITE 00004 SITE 00006 SITE 00007 SITE 00008 SITE 00009 SITE 00010 SITE 00011 SITE 00012 SITE 00013 SITE 00014 SITE 00015 SITE 00016 SITE 00019 SITE 00020 SITE 00021 SITE 00022 SITE 00024 SITE 00025 SITE 00026 SITE 00027 SITE 00028 SITE 00029 SITE 00030 SITE 00031 SITE 00032 SITE 00033	NAVFAC SOUTHWEST - BLDG. 1	

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Total Estimated Record Page Count: 5,971

Total - Administrative Records: 77

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No Keywords
Sites=SITE 00031
No Classification

APPENDIX C

Public Notice, Roster of Public Meeting Attendees, and Public Meeting Transcript

DECLARATION OF PUBLICATION OF
SAN FRANCISCO CHRONICLE

WESLEY MANALASTAS

declares that:

The annexed advertisement has been regularly published in the

SAN FRANCISCO CHRONICLE

which is and was at all times herein mentioned established as newspaper of general circulation in the City and County of San Francisco, State of California, as that term is defined by Section 6000 of the Government Code.

SAN FRANCISCO CHRONICLE
(Name of Newspaper)

901 Mission Street
San Francisco, CA 94103

From September 23, 2008
To September 23, 2008
Namely, on September 23, 2008

(Dates of Publication)

I declare under penalty of perjury that the foregoing is true and correct.

Executed on September 23, 2008
at San Francisco, California.

Wesley Manalastas

WESLEY MANALASTAS

805 PUBLIC NOTICES

805 PUBLIC NOTICES

PUBLIC NOTICE

The Dept. of the Navy Announces Availability of the Proposed Plans/Draft Remedial Action Plans (PP/Draft RAPs) for Installation Restoration Sites 30 and 31, at Naval Station Treasure Island, SF, CA.

The Navy, in coordination with state environmental regulatory agencies, encourages the public to comment on the PP/Draft RAPs to clean up contaminated soil at Installation Restoration Site 30, Daycare Center, and Site 31, Former South Storage Yard, located at former Naval Station Treasure Island.

Treasure Island is located in the SF Bay, just north of the Bay Bridge. TI was built in 1936 for the Golden Gate International Exposition and used by the Navy from 1941 through 1997. Reuse of the property is currently coordinated by the City of SF. Investigations indicated the presence of soil contamination at Sites 30 and 31. PP/Draft RAPs have been assembled for each site providing a summary of site evaluations including remedial investigations, feasibility studies, and human health and ecological risk assessments. The Navy proposes remedial action to address potential risks to human health and the environment.

PUBLIC COMMENT PERIOD

The Navy invites interested members of the public to review and comment on the PP/Draft RAPs during the 30-day public comment period from September 23 through October 23, 2008. Public comments must be postmarked or emailed by October 23, 2008, or submitted at the public meeting on October 7, 2008. Please send all comments and mail to James B. Sullivan, Navy BRAC PMO West, 1455 Frazee Road, Suite 900, San Diego, CA 92108-4310, (619) 532-0966, Email: james.b.sullivan2@navy.mil.

The Department of Toxic Substances Control (DTSC) also invites the public to review and comment on the draft Negative Declaration pursuant to the California Environmental Quality Act (CEQA). The draft Negative Declaration finds that the implementation of the cleanup alternatives at Sites 30 and 31 would have no impact to public health and the environment. Please send written comments on the Negative Declaration to Mr. Ryan Miya, 700 Heinz Avenue, Berkeley, CA 94710-2721, (510) 540-3775, Email: rmiya@dtsc.ca.gov.

PUBLIC MEETING

The Navy will host a public meeting to discuss the PP/Draft RAPs and accept public comments on October 7, 2008, 7:00 p.m. to 8:00 p.m. at Casa de la Vista, Building 271, Treasure Island.

FOR MORE INFORMATION

Copies of the PP/Draft RAPs, Feasibility Studies, Remedial Investigations, and other site related documents are available for review at the Information Repository at: San Francisco Public Library, Government Publications Section, 100 Larkin Street, San Francisco, California, (415) 557-4400 and Navy BRAC Caretaker Site Office, 410 Palm Ave., Bldg. 1, Rm 161, TI, SF, CA 94130, (415) 743-4729. Select documents are also available on the Navy's website at: www.bracpmo.navy.mil.

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CERTIFIED COPY

FORMER NAVAL STATION TREASURE ISLAND
PROPOSED PLAN/DRAFT REMEDIAL ACTION PLAN
FOR SITE 30 & SITE 31
PUBLIC MEETING

REPORTER'S TRANSCRIPT OF MEETING

OCTOBER 7, 2008

Casa de la Vista, Building 271
Avenue of the Palms, Treasure Island
San Francisco, California

Reported by Christine M. Niccoli, RPR, C.S.R. No. 4569

NICCOLI REPORTING
619 Pilgrim Drive
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PARTICIPANTS

FACILITATOR: JAMES B. SULLIVAN - United States Navy

PRESENTERS:
CHARLES PERRY - United States Navy (page 4)
RYAN MIYA - Department of Toxic Substances Control (DTSC) (page 26)

CONSULTANTS, REGULATORS:
SCOTT ANDERSON - United States Navy
MARGARET BERRY - Barajas & Associates, Inc.
PETER BOURGEOIS - Shaw Environmental and Infrastructure, Inc.
TOMMIE JEAN DAMREL - Tetra Tech EM Inc.
PAISHA JORGENSEN - San Francisco Bay Regional Water Quality Control Board
CHRISTINE KATIN - U.S. Environmental Protection Agency (EPA)
KYAW NAING - Barajas & Associates, Inc.
ELI VEDAGIRI - Barajas & Associates, Inc.

PUBLIC AUDIENCE:
LAVINA DE SILVA, DEB EBERHART, BART RUGO

---oOo---

TREASURE ISLAND, SAN FRANCISCO, CALIFORNIA
TUESDAY, OCTOBER 7, 2008, 7:03 P.M.
---oOo---

MR. SULLIVAN: Okay. Well, a few minutes after 7 o'clock, and so we'll get the meeting started.

I'm Jim Sullivan from the Navy, and we're here tonight for the Sites 30 and 31 Proposed Plan meeting. And we'll have a presentation on the Proposed Plan and Draft Remedial Action Plans and then also a presentation on the State's CEQA determination, and then we'll have opportunity for clarifying comments and then finally -- or clarifying questions, and then finally we'll open it up for public comment.

So we do have a court reporter here today. It's tonight. So we'd ask if you are going to speak, to, you know, please state your name and, you know, enunciate for the -- for the record so that we can accurately capture all of your questions and comments.

So at this point -- and as you walked in, you've seen we have some posters, some of which are -- will be replicated on the presentation. And so you're welcome to stay after the meeting to, you know, further look at and discuss the posters.

There are meeting materials on the back table. There's a copy of tonight's presentation as well as additional copies of the two Proposed Plans.

And then if you haven't signed in, we do ask that you do sign in. That way we can identify you as having attended and make sure that you're on our mailing list for future information.

So thank you for coming, and I'll turn the meeting over to Charles Perry, our project manager.

MR. PERRY: All right. Thank you, Jim.

PRESENTATION

BY CHARLES PERRY:

As Jim mentioned, my name's Charles Perry, lead remedial project manager for Treasure Island, and I'll be going over the Proposed Plans/Draft Remedial Action Plans for the Sites 30, day care center, and Site 31, former south storage yard. And the former south storage yard you might be more familiar with as being the playground area of the former elementary school that was out here on the island.

So let's see. Okay. This is a little snapshot of what I'll be going over: Some brief background of Treasure Island; the -- go over the Site 30 day care center Proposed Plan; Site 31 Proposed Plan and the public involvement process; schedule; the State of California CEQA, which is the -- CEQA stands for California Environmental Quality Act. So Ryan will go

over that. And then we'll take public comment, if any, on the Proposed Plans.

So the Navy -- we're out here cleaning up, but we don't just do it on our own. We actually have a whole set of partners out here.

And we basically -- it's the Department of Navy for our Base Realignment and Closure, or BRAC, Cleanup Team, called BCT, an acronym within an acronym. And that consists of the California Environmental Protection Agency, Cal EPA; Department of Toxic Substances Control, and the Regional Water Quality Control Board and then also the U.S. Environmental Protection Agency. So it's a pretty good group of federal and state agencies up here.

We also get infor- -- bring in the local reuse authority, which is the Treasure Island Development Authority, TIDA, you probably are aware of. And then we also bring the public into the process through the Restoration Advisory Board and -- and then also community involvement through public meetings such as this.

Now, Jim, would you like to give a little -- little plug on the Restoration Advisory Board?

MR. SULLIVAN: Yes.

The Restoration Advisory Board consists of the

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governmental members as well as community members. And the RAB has been meeting regularly here since 1994, and we currently have about ten community members.

And we're always looking to add additional members to the RAB for anyone interested. You don't have to -- you don't have to have specific environmental experience. You don't have to -- you don't have to live on the island. You just to have an interest in the environmental program at Treasure Island and Yerba Buena Island.

So the RAB currently meets every second month right here in the Casa on the third Tuesday of every second month. And so our next meeting is two weeks from today on October 21st, also at 7 o'clock.

And so we'd invite -- it's a public meeting. Everyone's welcome to attend. If you don't wish to be a member, you're welcome to attend as many meetings as you'd like as a member of the public. And so we would hope to -- to see more people attending the RAB meetings.

And we generally provide information on the RAB on a lot of our information sheets, and then there is also more information as well as an application on our Navy Web site.

MR. PERRY: Thank you, Jim.

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Okay. A little background. Treasure Island, as you know, it's within the City and County of San Francisco, okay, right here [Slide 4]. Treasure Island itself, the man-made portion, it was built in the '30s, and this [Slide 5] -- the larger piece is the man-made portion, and then Yerba Buena Island is the natural piece of former Naval Station Treasure Island.

Treasurer Island was initially built for the Golden Gate International Exposition, and then the Navy took over ownership in the '40s, and naval operations were shut down in the late '90s. And TIDA currently is handling reuse of the island, although it's still owned by the Navy.

So Sites 30 and 31 [indicating]. Here's a good location. It's kind of hard to read that, but they are located fairly central part of the island.

Here's future site reuse. We looked at the 1996 reuse plan. That was what we had for a while. There's a newer version of the reuse plan. But as we're going through our CERCLA process, which is a long path, we need to -- we have milestones.

And so at the time, this was what was available, so we used it. And it showed Site 30 and 31 as being residential open space, which is -- pretty much, I believe, coincides with the current reuse plan.

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And for the immediate future, the day care center is projected to stay a daycare center; and the elementary schoolyard has similar-type uses, Boys & Girls Club or activities that are in that area. But the school itself as an elementary school was closed down in the base.

So the purpose of the Proposed Plan and the Remedial Action Plan: What the Proposed Plan does is it presents the Navy's preferred cleanup alternative. What we do in the process -- we go through the CERCLA process -- is: We -- at the feasibility study phase, we look at a bunch of different alternatives. And in the Proposed Plan, we summarize that and present it to the public to get input on those alternatives.

And so it's the second line. And then the comments that we receive on the Proposed Plan, both written as well as any verbal comments we receive tonight, we -- we put it into a responsiveness summary, and that is published in the Record of Decision, or ROD.

The Remedial Action Plan is for the Cal Health and Safety Codes, a state requirement; and it's for bases that are not on the National Priorities List. And so Treasure Island is -- is not on the National Priorities List, so we do this Remedial Action Plan

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requirement. It has some similar aspects to the Proposed Plans, so we're able to merge the two documents fairly well.

Let's see. Yeah. As it mentions there, we are presenting them together.

And this is the same process that's up here. It's just in a different format. We go through initial site discovery; and we can do some initial, you know, preliminary assessment work, which is looking at historical documentation, looking at aerial photographs.

If it were determined that we need to move forward to go into remedial investigation, we do soil sampling, groundwater sampling, get information from there, do risk calculations. And then, if need be, we move into the feasibility study where we actually look at different alternatives. And you'll see in slides that are coming up the actual alternatives that we look at.

And then the Proposed Plan, which is where we are at currently, we present those -- summarize those alternatives, present them to the public, get input on that.

And in the Proposed Plan, we're presenting what our -- what we think -- which remedial alternative we

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think we should go into the field with, and then that's documented in the Record of Decision.

Then the remedial design is the next phase where we actually do a work plan for the project and then -- and then do the pro- -- the remedial action is actually going into the field; or if it's institutional controls, there's other processes for that that we'll go into. And then five-year review.

So some of you -- or most of you, hopefully, saw the Proposed Plan. This is the cover page for Site 30. The Site 31 Proposed Plan looked very similar.

And it -- all these areas here [indicating] are -- basically, it's a summary. We summarize what we've done in previous documents up to this point and looked at -- summarize the risk assessments, looked at the remedial alternatives and then the proposed -- the preferred remedial alternative.

And these were mailed out September 16th through the 18th. And then right now we are in the public comment period for the -- both Proposed Plans.

So I got a request, actually, to go through Site 31 first. So I'm going to quickly scan through these, do Site 31 first, and then come back and do Site 30.

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MS. EBERHART: Thank you.

MR. PERRY: You're welcome.

So I'm going to do this.

Okay. Site 31. And as I know some of you were looking at the figures and boards that we have up around here, this [Slide 20] is the area that we're looking at for Site 31. The day care center is actually -- here's the northern part of that building, and this is 11th Street, Avenue E, and Avenue D. And this is the schoolyard, the elementary schoolyard in this area here [indicating].

So you'll notice that we have five debris areas, A through E. And as I walk you through the different alternatives that we looked at, it ranges from no action to digging all of these debris areas out and removing them from the base.

So moving forward. Background summary: The reason why we call it the South Storage Yard is the Navy used to use it as a storage yard in the '70s. At one point, the site was paved over and developed as an elementary schoolyard.

And then the way we found what we call Site 31 is: There was an as-built drawing that we located in 2002 which has a little -- you know, written on there is a "trash dump" near a utility line on 11th Street.

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So 11th Street . . . Where am I here. Here. Here's 11th Street [indicating]. So when we saw that, we basically went out and did some investigation and determined that there was material there, and we labeled Sites 30 and 31 based on that.

So here [Slide 22] are some of the activities we did. It was that initial investigation we did based on seeing that as-built drawing. We did trenching investigation in the area. We also did a time-critical removal action which . . . , let's see. Actually, let me -- let me back up a couple.

This area here [Slide 20], these kind of tannish-colored strips, this was that time-critical removal action. We actually went out and excavated in these two -- in these two areas previously. And these were in the areas that didn't have paving at that time. So it was felt that there was potentially an exposure pathway because we have soil there, so now you'll see we're looking at in these paved areas going out and doing some additional work.

So I was . . . Here we go [Slide 23].

So as part of the process during the remedial investigation, we look at human health risk assessment. And I'm not going through all of this, but basically, you collect data. You develop the chemical of potential

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concern out there, and then you do some assessments, risk assessments, based on that.

One thing to take out of this is we did two different calculations: one with asphalt pavement and then one without asphalt pavement.

So, basically, as it is currently, or if anyone came out and pulled off the asphalt and made like a grass field out there, what would be the risk for both of those situations? So here is the risk, and this is if asphalt pavement were removed. So this is not the existing condition.

But what we did is with cancer risk for the elementary school child/staff and construction worker, the risk was basically within the risk management -- risk management range, which is 10 to the minus 6 and 10 to the minus 4.

Another way of looking at that 10 to the minus 6 and 10 to the minus 4 is: 10 to the minus 6 is basically 1 in a million, and 10 to the minus 4 is 1 in 10,000; and so it's a little bit easier way to wrap your head around what those numbers are.

We also looked at -- this is basically the current usage that might happen at the site. The hypothetical future use is in -- you know, there was commercial or industrial worker at the site or child or

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adult resident so if someone built a house in that area.

And so for there we are within the risk management range for -- I'll step back a little bit. There's two different methods for risk calculations, the federal and the state. So for the federal, we were within the risk management range; and for the state, we were above that risk management range. So basically, it was more than 1 in 10,000 risk.

So noncancer hazards: We were below the hazard index threshold of 1, just another calculation we do, and this was for every -- everyone except for the hypothetical resident and commercial/industrial worker.

And the chemicals of concern at the site are dioxins, benzo(a)pyrene, and lead. One thing to point out, as I mentioned before, this was for a- -- with the asphalt pavement removed.

So with the pavement there, there is not an exposure pathway at the site. So there's not a risk for current folks that are out at the site or that may be on the site.

We also look at ecological risk. And both for 30 and 31, just due to the nature of Treasure Island, lot of paved areas and structures, it's not significant wild habitat. And as far as groundwater, there

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wasn't -- we didn't see the risk in groundwater that were contaminants flowing into the bay, which would be protection of the marine receptors. So there wa- -- both those pathways were -- weren't -- there wasn't an issue.

So here's the risk summary [Slide 26]. Basically, for each alternative, looking at current site usage or potential site usage and then the hypothetical future use, we look at these different areas and determine what chemicals of concern they are.

And here you'd know with asphalt there's no chemicals of concern 'cause there's not an exposure pathway. If you remove the asphalt, these are the chemicals of concern that were present.

And then as the alternative land uses, then you see some of these other ones, like lead end up coming into the equation.

So here we develop remedial action objectives for the site. Now, this is -- you know, there's a lot on the slides, so I'm not going to go through everything. But again, for each of those potential exposure scenarios for elementary school, construction worker, recreational, and a couple more, the commercial/industrial and residential receptors, which would be future land use, we developed these remedial

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action objectives [Slide 27].

But one thing to pull out of it, one of the most conservative ones we have is the residential receptors, which is really where we're looking at and moving forward in this process.

And here's [Slide 29] the alternatives that I discussed. We had five of them for this site. There's always -- We always look at a no-action alternative when we're looking through these. You want to have a baseline to compare the others against. And then also if we ever have, you know, action alternatives, we're also required to look at a complete removal alternative so there would be no risk.

And so then in between those two, the extreme is on the other end. We have the other alternatives. Here's one: engineering controls combined with institutional controls. And basically, engineering control could be the asphalt that's out there. So maintaining the asphalt would be an engineering control.

Institutional controls are deeds and restrictions that are -- that were put on the property so that if you transfer the property or sell the property, that goes along -- the restriction goes along with it. So if you had a restriction that said you

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cannot put a house -- build a house on this piece of property, that restriction would go along, and you wouldn't be able to get a permit to build a house on that piece of property.

Alternatives 3 and 4 are just variations of the excavation. You saw there was those five different debris areas. So these we're digging up a couple of them and not digging some other ones but digging at different depths. But those aren't as important because what we're proposing here is Alternative 5, which really is digging up all five of those areas down to 6 feet, and so it's complete removal.

Our goal is when we get finished with the project is to walk away from the site and there would be no further risk at the site.

And so this [Slide 30] follows along. Yeah. Basically, we want one year for implementation, and that considers a work plan stage where we're developing what we're actually going to do in the field and the actual project as well as the closure reports that are done after that.

Now, are there any clarifying questions?

One thing that we're going to do is at the very end of the presentation, we're going to take public comments that would -- that we're going to take down,

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the stenographer's going to take town, so that we can then respond to those in the Record of Decision.

But now if anyone has a question just on the presentation I've given so far, I can clarify. However, since you guys are leaving, I would say that if you want to make any public comments, you can go ahead.

MS. EBERHART: We can write our comments, right?

MR. PERRY: Yeah. There's forms in the back, which are -- we have for -- you can write on later and mail them in. You can E-mail us. You can fax us. You can call -- you know.

MS. EBERHART: Or we can get involved.

MR. PERRY: Yes. There's a lot of different ways to give comments, so . . .

MS. EBERHART: Thank you.

MR. SULLIVAN: Oh. Yeah. I'd just like to note that the actual Proposed Plan document has its own built-in comment form --

MS. EBERHART: Oh.

MR. SULLIVAN: -- on the -- on the last page and provides information for how to mail or fax that in.

And then as Charles mentioned, we also brought some separate comment sheets here tonight. Or, I mean,

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you can use -- you can -- you can write -- I mean, you can write a comment on anything and send it to us. It doesn't have to be on -- you know, on this specific form.

MR. PERRY: And if you grab a copy of the presentation that's on the table back there, there's some slides in the back that have both Jim and my contact information as well as Ryan with the DTSC for any other comments on these specific documents.

MS. EBERHART: Thank you.

MS. DE SILVA: Thanks very much.

MR. PERRY: Yeah. Well, thank you for coming.

And okay, let me see. It might be easier to . . .

Site 30, day care center. This site is located basically -- here it is [Slide 10]. It's located just below Site 31. So the site -- Site 31 that we just discussed is up here [indicating]. Here's that, the playground area; and here's 11th Street, and then the day care center is down below.

As we go through this site -- or the presentation, you'll see that this blue area is the actual boundary at the site, this blue line. It's kind of hard to see.

But the remedial action that we're talking

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about here is -- in relation, it's red outline, which is the building foundation as well as this concrete pad that is off on the side. And it's kind of hard to see. It's dark. But there's a concrete pad [indicating] that's adjacent to the building.

So background summary [Slide 11]. It was constructed -- The day care center was constructed in 1985 by the Navy. It was closed in 1997, and then it was leased to TIDA and reopened in 2003.

So again, along with Site 31, the discovery of this area was found at the same time. It was that as-built drawing that had the "trash dump."

And so some of the same CERCLA activities were done, the trenching investigation and the time-critical removal action. Because the sites are adjacent to each other, they apply to both. And then we did a separate remedial investigation and feasibility study for the site.

So for the human health risk assessment, there's some of the same things we looked at for Site 31. So I won't go through all of these.

Let's see. Yeah, this is basically the same slide.

So for the health risk assessment, cancer risk, we looked at risk of the day care center child, adult,

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and construction worker; and everything was below the target cancer risk range of 1 in a million and -- to 1 in 10,000.

And then we also looked for future hypothetical commercial/industrial worker and child/adult residents on this site.

Let's see. Oh, yeah. So for the future risk, it's within the risk management range. So it's within that 1 in a million and 1 in 10,000.

For noncancer for all receptors were below the hazard index of 1. And dioxins were identified as the risk drivers. So that's our chemical of concern. And dioxins are a by-product of combustion. So we think it's in that trash dump there was some burning of the material which created that dioxin.

And dioxin's fairly ubiquitous. Anytime you have forest fires, brush fires, if you went out and sampled those areas, you would find dioxin. But it can be hazardous at fairly low level.

This is basically the same ecological risk [Slide 14], same area. So no difference here for Site 30.

So our remedial action objectives for this site was basically for the day care center receptors, which is the current use. And so look at prevention of

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ingestion and contact with the soil containing the dioxins beneath the building.

And for our commercial/industrial receptors, it's looking at preventing again ingestion and direct contact with the soils below the building and below the concrete pad adjacent to it.

So for this site, we have three alternatives: again, the no action alternative, which we always do, as well as the other end of the spectrum, which is building demolition, complete excavation, off-site disposal at a permitted landfill.

And then the alternative in the middle, which is the engineering controls and institutional controls, similar to what I discussed for Site 31 as one of the alternatives. And here the engineering controls is the -- maintain the building foundation. So that is an engineering control. If you don't dig through or cut through that foundation, you won't have exposure to the soil beneath it.

And institutional control is the covenants and deeds. So if the property transfers; if a worker wants to go in and, say, put in some -- what am I thinking of -- plumbing work, they have to dig down through the foundation and get into the soil; and there are certain procedures they are going to have to follow in order to

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do that.

So . . . ah, this [Slide 17] is something that applied to the other one, but it's early in the slide. But when we look at alternatives, we go through the EPA's nine evaluation criteria; and they are categorized as threshold criteria, balancing criteria, and then modifying criteria.

And so we have looked at all the 1 through 7 and -- well, actually, 1 through 8 state and regulatory acceptance; and then right now we're looking at Criteria 9, which is community involvement -- or community acceptance. So . . .

So our preferred alternative is Alternative 2, which is engineering controls and institutional controls. And so it meets up -- it meets our remedial action objectives by protecting the day care center children and adults and maintaining that foundation and then protecting the potential and future construction workers and residential or industrial workers by the deed restrictions.

So our controls that we are going to set up are monitoring the integrity of the building slab, so periodic inspections, and then the restrictions that we talked about.

And then we have what's called five-year

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reviews that when you -- whenever you leave contamination in place, you have to do five-year reviews that go out and ensure that what you -- what you put in place has actually been maintained; or if site conditions change, you might need to go out and reevaluate your -- your remedial goal -- or remedial objective.

Are there any clarifying questions on Site 30 Proposed Plan?

(No verbal response heard.)

All right. I'll move through.

Okay. So now we get to the public involvement part for both Sites 30 and 31 Proposed Plans. These [Slide 32] are just the general steps. In a subsequent slide, I'll show you the dates for this project.

But we need to public -- publish a notice in the paper. So the San Francisco Chronicle would be an example, depending on where the -- where your base or your site is.

The Proposed Plans are made available for review in the information repositories, and we do have information repositories: one located here in Building 1 on Treasure Island as well as one in San Francisco public library.

The 30-day public comment period; public

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meeting, which is what we're having tonight; and then a transcript of the public meeting is produced, and then the responsiveness summary that I mentioned before is developed and is put as an appendix in the record -- in the Record of Decision.

So for these sites, we published that notice in the San Francisco Chronicle on September 23rd, and the public comment period is September 23rd through October 23rd. And that's important so that if there's any comments that you want to submit, if you fill out the forms or you speak tonight, you can get those comments in, and then they will be put in the responsiveness summary; they will be in the Record of Decision.

However, if there's comments received after that, you know, we all -- we'll always take that into consideration. It just wouldn't be able to be put into the Record of Decision.

And then public meeting we have here is October 7th, which is tonight. And then we will be finishing up that responsiveness summary in October, preparing the Record of Decision and the Final Remedial Action Plan in the rest of the year 2008 doing the Remedial Design, also known as a Remedial Action Work Plan, in 2008 and then taking the remedial action in

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early 2009.
So I'm going to have Ryan Miya from the Department of Toxic Substances Control come up and go over the California Environmental Quality Act, information he's done for these sites.
MR. MIYA: Thank you, Charles.
PRESENTATION
BY RYAN MIYA:
So as Charles said, my name is Ryan Miya. I'm the project manager for the Department of Toxic Substances Control, and I'm going to talk to you today about the California Environmental Quality Act, otherwise known as CEQA.
And basically, this is a law that was passed in 1970, and the law requires disclosure and consideration of the effects of the proposed activities, the activities that Charles just talked about, the effects of those proposed activities on the environment, identification and development of the ways to avoid or reduce environmental damage, and then finally documentation of the findings, not only for the public, folks like yourself, but also for other agencies and decision-makers as well.
So in order to comply with the CEQA regulations, we have prepared documents in this case.

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One of them's called an Initial Study, and a Draft Negative Declaration is the other document.
And these CEQA documents are also useful as we work with other agencies to make sure that we meet the requirements of other related environmental laws and regulations, and some of those other laws and regulations are the federal and state Endangered Species Acts as well as the Clean Water Act.
And so in the initial study, we describe the existing environment in the project area, and we identify the sensitive natural and cultural resources, describe the project activities that may affect them, and then evaluate what can be done to protect people in the environment from the harmful effects.
And so some of categories of things that are analyzed as a part of the CEQA impact analysis are described here. And there's actually quite a few more activities that are analyzed as a part of the CEQA document, but this is just a few of the categories that are analyzed: air quality, biological resources, cultural resources, hydrology and water quality.
And so we try to evaluate the project's potential impacts on the air quality, on the -- the soils, and -- and on plants and animals and their habitats.

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And some of these impacts -- these general topics have already actually been discussed in quite detailed nature by Charles. But, you know, even though CEQA itself is kind of a separate process, we can make use of the existing information that we already have in some of the documents that -- that have already been prepared as part of the process that Charles was talking about.
So basically in terms of public involvement, the public involvement is a very important part, especially an essential part, of the CEQA process. And so by working together, we can exchange information and identify and solve some potential problems and make sure that our analysis is as accurate as possible.
And so we appreciate folks taking the time and effort to come out here and be informed and involved, and we would like to continue to invite you to participate in this process with us.
And so if you have any input that you believe we should be considering as a part of the CEQA analysis, you can call or E-mail me. You can fill out the comment forms that also Charles referenced to as well. And all the -- all the comments that we receive during the public comment period are going to have responses that we will provide during this public review period.

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And so the way that you can be involved with public involvement process is to be in attendance at this -- at meetings like this. You can have your name that's added to the mailing list so that you receive the publications and notices of these publications as they become available, public review.
You can also actually take a look at the documents themselves during the public and agency circulation period. I have a copy of the Draft Negative Declaration as well as the Initial Study document as well. But they're also -- primarily they can be found at the repositories that Charles also mentioned, one here at being on the island and the other one being in the San Francisco Public Library.
And then you can provide written comments on resources or issues addressed in this -- in this Initial Study and Draft Negative Declaration.
So I'll hand the presentation back over to Charles for some closing comments, and we'll take some comments. Thank you very much.
MR. PERRY: So where to submit comments: For the Proposed Plan Draft RAP, you have my contact information up there as well as Jim Sullivan, who's the BRAC environmental coordinator; and then comments on the Proposed Negative Declaration can be submitted to Ryan

Miya -- Ryan Miya.

But on both of these, if comments are submitted to any of us, we -- they will be -- we'll work with each other and develop responses to them. So send them to any or all of us.

And with that, are there any public comments?

(No verbal response heard.)

All right. Well, the meeting is drawn to a close. Thank you for attending.

(Off record at 7:39 p.m., 10/7/08.)

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CERTIFICATE OF REPORTER

I, CHRISTINE M. NICCOLI, Certified Shorthand Reporter of the State of California, do hereby certify that the foregoing meeting was reported by me stenographically to the best of my ability at the time and place aforementioned.

IN WITNESS WHEREOF, I have hereunto set my hand this 15th day of July 2009.

CHRISTINE M. NICCOLI, C.S.R. NO. 4569

APPENDIX D

Responsiveness Summary

RESPONSES TO COMMENTS

PROPOSED PLAN
SITE 31 FORMER SOUTH STORAGE YARD
NAVAL STATION TREASURE ISLAND

The "*Proposed Plan, Site 31, Former South Storage Yard, Naval Station Treasure Island,*" was released for public comment on October 7, 2008. This document was prepared for the Department of the Navy by Barajas & Associates, Inc. No public comments on the Proposed Plan were received by the Navy. The California Department of Fish and Game submitted comments on the Proposed Plan on October 30, 2008. The comments were received after the publication of the Proposed Plan. The comments on the Proposed Plan appear below as they were received by the Navy, followed by the Navy's response to each comment.

RESPONSES TO DFG COMMENTS

Comments provided by Mr. Charlie Huang, Ph.D., Staff Toxicologist, California Department of Fish and Game, Office of Spill Prevention and Response (OSPR):

Q: OSPR appreciates this opportunity to provide guidance on the planned cleanup at NAVSTA TI. This memorandum will serve to inform the Navy of our continuing interest in coordinating any natural resource issues, as one of the designated State natural resource Trustees.
A: Comment noted.

Q: OSPR is in concurrence with the preferred remedial alternative 2 (engineering controls combined with institutional controls) for Site 30 and alternative 5 (complete removal of debris areas A, B, C, D, and E, and off-site disposal) for Site 31. We agree that the sites pose little or no risks to ecological receptors based on the screening level ERA and both alternatives will reduce possible runoff issues.
A: Comment noted.

Q: Based on current lack of habitat and an assumption that future use will not lead to significant increase of habitat, OSPR understands that little to no significant risk is posed to ecological receptors at Sites 30 and 31. If, after the removal action, the future land use differs significantly from current uses, the Navy should contact OSPR. We will evaluate the impact to ecological receptors to see if another ERA is necessary to address ecological risks to Sites 30 and 31.
A: Comment noted.

Q: Proposed Plan/Draft Remedial Plan for Site 30: Page 2. After statement "See text box "What are the Chemicals of Concern", "*on Page 3*" should be added.
A: The comments were received after release of the Proposed Plan, therefore, no changes could be made.

Q: Proposed Plan/Draft Remedial Plan for Site 31: Page 1. After comment "and at the Treasure Island Building 1 information repository" *see page 10 for information*" should be added.
A: The comments were received after release of the Proposed Plan, therefore, no changes could be made.

Q: Proposed Plan/Draft Remedial Plan for Site 31: Page 4. "Table 1 highlights the cancer risks and non-cancer hazards for receptors from Federal and State HHRAs." However, I am unable to find "Table 1" in the document.
A: The comments were received after release of the Proposed Plan, therefore, no changes could be made.

Q: Conclusions: OSPR is in general concurrence in the preferred remedial alternative 2 for Site 30 and alternative 5 for Site 31 proposed in the documents. Numerous species of marine and terrestrial birds and waterfowl may frequent NAVSTA TI. The Navy should avoid jeopardizing any birds during the removal action. If at any time during the removal action any bird is harmed and/or killed, the OSPR requests that a OSPR biologist be contracted promptly. We look forward to continued further interactions with Navy staff on issues related to Sites 30 and 31. If you have any questions regarding this memorandum or require further details, please contact me at (916)324-9805 or by email at chuang@ospr.dfg.ca.gov.
A: Comment noted.

APPENDIX E

Regulatory Agency Comments and Department of the Navy Responses

RESPONSES TO REGULATORY AGENCY COMMENTS

DRAFT RECORD OF DECISION/REMEDIAL ACTION PLAN
SITE 31, FORMER SOUTH STORAGE YARD
NAVAL STATION TREASURE ISLAND

The Department of Toxic Substances Control (DTSC), Regional Water Quality Control Board (Water Board), U.S. Environmental Protection Agency (EPA), and Treasure Island Developmental Authority (TIDA) have reviewed the document entitled *"Draft Record of Decision/Final Remedial Action Plan, Site 31, Former South Storage Yard, Naval Station Treasure Island"* dated October 2008. This document was prepared for the Department of the Navy by Barajas & Associates, Inc. DTSC comments on the draft Record of Decision/Remedial Action Plan were received in a letter from Mr. Ryan Miya dated December 28, 2008. The Water Board conveyed that they had no comments in a letter from Paisha Jorgensen dated December 8, 2008. USEPA comments were received in an email from Christine Katin dated December 8, 2008. TIDA comments were received from Mr. Gary Foote, Geomatrix, in a letter dated November 24, 2008. Responses to the comments are shown in Tables E-1 through E-3.

TABLE E-1 RESPONSE TO REVIEW COMMENTS - DTSC
Site 31 ROD, NAVSTA TI, San Francisco, California

Document Title: Draft Record of Decision, Site 31, Former South Storage Yard, Naval Station Treasure Island
Report Date: October 2008
Reviewer: Ryan Miya, DTSC
Review Date: December 24, 2008

Comment No.	Section/ Page No.	Comment	Response
SITE 31 ROD/RAP COMMENTS			
1	Document title on cover.	Please replace "Record of Decision / Final Remedial Action Plan" with "Record of Decision / Remedial Action Plan" on the cover page and throughout the document. The acronym of this document should be "ROD/RAP".	The title will be changed as recommended.
2	Section 1.3 Assessment of the Sites.	It is not clear how the response action selected in Site 31 ROD/RAP is appropriate to protect the health of potential human and ecological receptors from *future* releases of hazardous substances into the environment at Site 31. Please clarify or remove that portion of the statement.	The reference to future releases will be removed from the text.
3	Section 1.7 – Declaration Statement and Authorizing Signature.	DTSC's signatory for Site 31 ROD/RAP is Daniel E. Murphy, P.E., Unit Chief, Brownfields and Environmental Restoration Program.	The text will be revised as recommended.
4	Section 2.8 – Remedial Action Objectives.	Please clarify that the remedial action objectives as presented are maximum concentrations that shall not be exceeded in any of the final confirmation samples collected as a part of the remediation. DTSC requires the Navy to continue excavation and subsequent confirmation sampling at any location with soil concentration(s) exceeding the Remedial Action Objectives.	The description of Alternative 5 in Section 2.9.5 specifies that confirmation samples will be collected to assure that RAOs are met. A paragraph will be added to Section 2.8 as follows: "*For the selected remedy for Site 31, Alternative 5, the RAOs represent concentrations that shall not be exceeded in the final confirmation samples to be collected as a part of the remediation. If the RAO concentrations are exceeded in the confirmation samples, additional soil will be excavated to the extent that is technically practical.*"

TABLE E-1 RESPONSE TO REVIEW COMMENTS - DTSC
Site 31 ROD, NAVSTA TI, San Francisco, California

Document Title: Draft Record of Decision, Site 31, Former South Storage Yard, Naval Station Treasure Island
Report Date: October 2008
Reviewer: Ryan Miya, DTSC
Review Date: December 24, 2008

Comment No.	Section/ Page No.	Comment	Response
5	Section 2.9.5 – Alternative 5: Complete Removal of Debris Areas A, B, C, D, and E, and Off-Site Disposal of Soil.	Please make sure that the remedial action work plan (RAWP) (or remedial design and implementation plan) includes preliminary radiological scans as a part of the excavation efforts in order to verify that radiological anomalies are not present at Site 31. In addition, the RAWP shall include confirmation sampling procedures, frequency, specific details as to what will occur if/when a confirmation sample exceeds a remedial action objective, as well as what will occur if/when groundwater is encountered.	Radiological scans will be conducted for worker health and safety during the excavation. The text in Section 2.9.5 will be amended to state that the RAWP will include confirmation sampling procedures, frequency, specific details as to what will occur if/when a confirmation sample exceeds a remedial action objective, as well as what will occur if/when groundwater is encountered.
6	Section 2.12.3 – Summary of Estimated Remedy Costs.	Please specify in the text if the estimated present-worth cost for the selected remedy includes potential costs associated with replacement of the hard surfaces.	The text will be revised to state that the estimated present-worth cost for the selected remedy includes costs associated with replacement of the hard surfaces.
7	Section 3.4 - Nonbinding Allocation of Responsibility.	The text proposed for Section 3.4 of the Site 30 ROD/RAP must also be added as additional text to Section 3.4 of the Site 31 ROD/RAP.	The text will be added as recommended.
8	Statement of Reasons (Appendix A).	The same comments to Subsections 3 and 4 in the Statement of Reasons for the Site 30 ROD/RAP apply also to the Site 31 ROD/RAP Statement of Reasons.	The following text will be added: *(1) Benzo(a)pyrene, dioxins, and lead are not considered volatile and tend to adsorb strongly to soil particles. In general, these compounds are retained strongly by soil and are not expected to leach to groundwater or migrate off-site to the Bay.* *Comingling is generally discussed for sites with groundwater contamination. Groundwater has not been impacted at Site 30.*

TABLE E-2 RESPONSE TO REVIEW COMMENTS – US EPA
Site 31 ROD, NAVSTA TI, San Francisco, California

Document Title: Draft Record of Decision, Site 30, Daycare Center, Naval Station Treasure Island
Draft Record of Decision, Site 31, Former South Storage Yard, Naval Station Treasure Island
Report Date: October 2008
Reviewer: Christine Katin, US EPA
Review Date: December 8, 2008

Comment No.	Section/ Page No.	Comment	Response
GENERAL COMMENTS			
1		Both RODs describe site use within the context of the Draft 1996 Reuse Plan (CCSF 1996). For Site 30 in particular, the use of Building 502 is specifically identified in the Draft 1996 Reuse Plan; however, the ROD also states that recent comments by CCSF officials indicate (the possibility) that the daycare center will be relocated. (1) Is the 1996 Reuse Plan consistent with the most recent redevelopment plan? and (2) If the daycare center is relocated, will Site 30 be maintained as "institutional use" and will other uses be prohibited (this is not indicated in the section on institutional controls)? The IC requires investigation and/or remediation upon building demolition and removal, but it is not clear what would be required in the event of a change in use(r).	For purposes of remedy selection the Navy and the TIDA have agreed that reasonably foreseeable reuse is established by the 1996 Reuse Plan which specifically identifies Building 502 for "Institutional Use," and states that a daycare center is planned at this building (City and County of San Francisco [CCSF] 1996). The reasonably foreseeable future use of the site will be a daycare center. If the daycare center is relocated in the future, the ICs would restrict use of the site to nonresidential uses. Implementation of the ICs would include establishing conditions for obtaining a variance, or termination of the ICs based upon either a change in site conditions or additional investigation and possible remediation to permit a change in use.
ADDITIONAL COMMENTS ON SITE 30			
1	General comment.	"CCSF" does not appear to be defined in the document, but the acronym is used in the text (e.g., on page 11).	CCSF, City and county of San Francisco, will be added to the acronym page and introduced in the text.
2	Risk Characterization, Page 14.	This section has three bullets. Inconsistent with the first bullet, the second and third bullet do not state whether the risk was calculated with or without the concrete pad. Please consider editing for consistency.	The second and third bullets will be revised to indicate that the risks for alternative land uses were calculated assuming that the concrete pad has been removed.
3	Contaminants of Concern for Site 30, Page 14.	Minor comment: There is a typographical error in the first sentence - "Summary" should not be capitalized.	The text will be revised as indicated.

TABLE 3 RESPONSE TO REVIEW COMMENTS - TIDA
Site 31 ROD, NAVSTA TI, San Francisco, California

Document Title: Draft Record of Decision/Final Remedial Action Plan for Site 31, Former South Storage Yard, Naval Station Treasure Island
Report Date: October 2008
Reviewer: Gary R. Foote, Geomatrix, TIDA
Review Date: November 24, 2008

Comment No.	Section/Page Number	Comment	Response
1	Section 1.7 Declaration Statement and Authorized Signature.	The last sentence in this section begins, "Hazardous substances present in Site 31 soils at concentrations above **unacceptable** risk levels would be removed from the site..." (emphasis added). As written, this sentence is confusing. We believe it is more correct to refer to concentrations that are above **acceptable** risk levels for unrestricted use, or to concentrations that are **unacceptable** for unrestricted use.	The text will be changed to "above acceptable levels."
2	Section 2.2 Site History and Enforcement Activities.	The document states that "reuse of the property is currently coordinated by the City of San Francisco." It is more appropriate to indicate that "reuse of the property is currently coordinated by the Treasure Island Development Authority."	The text will be changed as suggested.
2	Section 2.2 Site History and Enforcement Activities.	The document states that "reuse of the property is currently coordinated by the City of San Francisco." It is more appropriate to indicate that "reuse of the property is currently coordinated by the Treasure Island Development Authority."	The text will be changed as suggested.
3	Section 2.5.3 Investigation History.	Under this heading "Time Critical Removal Action," the text describes the removal actions conducted both north and south of 11th Street. It would be helpful to clarify which removal action was within Site 30 and which was within Site 31.	The text will be revised to indicate that the removal action north of 11th Street is within Site 31, and the removal action south of 11th Street is within Site 30.
4	Section 2.6.2 Resource Use.	This section discusses potential uses of groundwater resources and cites proposed Basin Plan amendments that would de-designated potential groundwater use for municipal or domestic water supply. Because the Basin Plan was never actually amended, we suggest that this section also cite the Water Board's 2001 letter that indicates that groundwater at Treasure Island meets drinking water exemption criteria.	A reference to the Water Board's 2001 letter will be added.

TABLE E-3 RESPONSE TO REVIEW COMMENTS - TIDA
Site 31 ROD, NAVSTA TI, San Francisco, California

Document Title: Draft Record of Decision/Final Remedial Action Plan for Site 31, Former South Storage Yard, Naval Station Treasure Island
Report Date: October 2008
Reviewer: Gary R. Foote, Geomatrix, TIDA
Review Date: November 24, 2008

Comment No.	Section/Page Number	Comment	Response
5	Section 2.7.1 Human Health Risks.	Under the heading "Risk Characterization." The text indicates that LeadSpread modeling results exceed the target criterion for the elementary school child and hypothetical adult and child resident exposed to surface soil. We believe this is incorrect. Based on the information provided in the Remedial Investigation and Feasibility Study reports, the LeadSpread model results did not exceed the target criteria for these receptors exposed to surface soil. Additionally, when discussing risk assessment results for elementary school child and elementary school staff, the text in this section should consistently indicate whether the results are for "current site conditions" (paved) or "altered site conditions" (unpaved).	The text will be revised to state that LeadSpread modeling results *do not* exceed the target criterion for the receptors in question. The statement regarding risk results for elementary school child and staff will be revised to indicate that risks are within the risk management range for both altered and unaltered conditions.
6	Section 2.9.5 Alternative 5: Complete Removal of Debris Areas A, B, C, D, and E, and Off-Site Disposal of Soil and Section 2.12.2 Description of the Selected Remedy.	We have two comments relative to these two sections of the document. (1) The text indicates that following excavation of contaminated soil in all five areas, actual replacement of hard surfaces would be a management decision during preparation of the RAWP. The hard surfaces include 11th Street, portions of the paved school yard, and paved portions of Area D. TIDA supports replacement of these paved surfaces by the Navy. (2) The fourth paragraph states, "The intent of the remedial action described in Alternative 5 is to achieve unrestricted use of the site. It is assumed that, following the completion of this alternative, the RAOs will have been achieved without the need for ECs and ICs. However, soils containing dioxin concentrations above the remediation goal may exist deeper than 6 feet bgs. For the purpose of developing a cost estimate, the depth of 6 feet bgs was chosen based on the analytical results indicating that elevated dioxin concentrations are present to a maximum depth of 5 feet bgs." We appreciate the Navy's intent to complete cleanup such that unrestricted use will be achieved. We wish to note that if chemicals of concern are found to be present below a depth of 6 feet, the excavation(s) should be deepened to remove the impacted soil, thereby achieving the goal of unrestricted use of the site.	(1) Comment noted. (2) As stated in Section 2.9.5, a six-foot excavation depth was used for cost estimating purposes. Section 2.12.2 states that the actual excavation depth will vary depending on results of confirmation samples collected following excavation to assure that contaminants exceeding the remedial goals are removed. A sentence will be added to Section 2.9.5 for clarification as follows: "*Confirmation samples will be collected following excavation to assure removal of soil with contaminant concentrations exceeding the remediation goals, at depths greater than 6 feet bgs also, if required.*"

TABLE 3 RESPONSE TO REVIEW COMMENTS - TIDA
Site 31 ROD, NAVSTA TI, San Francisco, California

Document Title: Draft Record of Decision/Final Remedial Action Plan for Site 31, Former South Storage Yard, Naval Station Treasure Island
Report Date: October 2008
Reviewer: Gary R. Foote, Geomatrix, TIDA
Review Date: November 24, 2008

Comment No.	Section/Page Number	Comment	Response
7	Section 2.11 Principal Threat Waste.	The second sentence of the second paragraph of this section states, "Low-toxicity source materials are defined as contaminated soils that 'present an excess cancer risk near the acceptable risk range were exposure to occur'." The citation for this definition should be provided.	The reference for the subject sentence will be added as follows: *EPA 1991. A Guide to Principal Threat and Low Level Wastes, OSWER Directive 9380.3-06FS, November 1991.*
8	Appendix A, Statement of Reasons.	Under the heading for "Health and Safety Risks." The text should clarify whether the estimated risks for the elementary school child and elementary school staff are for current (paved) or altered (unpaved) site conditions.	The text will be revised as follows: "*Estimated cancer risks for the elementary school child, elementary school staff, and construction worker were within the EPA risk management range (10^{-6} to 10^{-4}) for both altered (i.e., paving removed) and unaltered site conditions.*"

UNSCANNABLE MEDIA

To use the unscannable media document # 2199208
contact the Region IX Superfund Records Center
at (415) 536-2000.

DEPARTMENT OF THE NAVY
BASE REALIGNMENT AND CLOSURE
PROGRAM MANAGEMENT OFFICE WEST
1455 FRAZEE RD, SUITE 900
SAN DIEGO, CA 92108-4310

Ser BPMOW.clp/0548

AUG 11 2009

Ms. Remedios Sunga
California Department of Toxic Substances Control
Brownsfields and Environmental Restoration Program
Berkeley Office
700 Heinz Avenue, Suite 200
Berkeley, CA 94710-2737

Dear Ms. Sunga:

SUBJECT: SITE 30, DAYCARE CENTER & SITE 31, FORMER SOUTH STORAGE YARD, RECORDS OF DECISION/REMEDIAL ACTION PLANS, NAVAL STATION TREASURE ISLAND, SAN FRANCISCO, CALIFORNIA

The final signed Sites 30 and 31 Records of Decision (ROD)/Remedial Action Plans (RAP) are provided for your information (enclosures (1) & (2)). The Navy would like to thank everyone for their continued support with these sites and the Naval Station Treasure Island Environmental Program.

For further information, please contact Mr. Charles Perry at (619) 532-0911.

Sincerely,

JAMES B. SULLIVAN
BRAC Environmental Coordinator
By direction of the Director

Enclosures: 1. Record of Decision/Remedial Action Plan for Site 30, Daycare Center, Naval Station Treasure Island, San Francisco, California, July 2009
2. Record of Decision/Remedial Action Plan for Site 31, Former South Storage Yard, Naval Station Treasure Island, San Francisco, California, July 2009

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Distribution:
Ms. Christine Katin, U.S. Environmental Protection Agency, Region IX
Mr. Ross Steenson, California Regional Water Quality Control Board
Ms. Mirian Saez, Treasure Island Development Authority
Mr. Jack Sylvan, Mayor's Office of Base Reuse and Development (w/out enclosure)
Mr. Gary Foote, AMEC-Geomatrix
Ms. Erika Richard, Director Kidango Daycare Center
Ms. Lavina DeSilva, Director Boys and Girls Club, Treasure Island
Mr. Jeff Austin, Lennar Communities
Mr. Randy Brandt, LFR, Inc.
Ms. Marcie Rash, Tetra Tech EM Inc.

Community RAB Members:
Mr. Nathan Brennan
Ms. Dale Smith
Ms. Alice Pilram
Mr. Saul Bloom, ARC Ecology